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STATE OF NEW YORK.

DEPARTMENT OF AGRICULTURE.

FOURTH ANNUAL REPORT

The Report of the Commissioner of Agriculture, for 1896, consists of three volumes, as follows:

Volume I. Fourth Annual Report of the regular work of the Department of Agriculture, as required by section 5 of chapter 338 of the Laws of 1893.

Volume II. Eighth Annual Report of the State Weather Bureau, and Ninth Annual Report of the Cornell University Agricultural Experiment Station, made to the Commissioner of Agriculture in compliance with the provisions of section 87 of chapter 338 of the Laws of 1893.

Volume III. Fifteenth Annual Report of the New York Agricultural Experiment Station, made to the Commissioner of Agriculture in accordance with the provisions of section 85 of chapter 338 of the Laws of 1893.

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1897.

STATE OF NEW YORK.

DEPARTMENT OF AGRICULTURE.

FOURTH ANNUAL REPORT

OF THE

COMMISSIONER OF AGRICULTURE,

FOR THE YEAR 1896.

TRANSMITTED TO THE LEGISLATURE JANUARY 15, 1897.

WYNKOOP HALLENBECK CRAWFORD CO.,
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JANUARY 15, 1897.

FOURTH ANNUAL REPORT

OF THE

Commissioner of Agriculture.

To the Honorable the Legislature of the State of New York:

In accordance with the provisions of the statutes relating thereto, I have the honor to herewith transmit the Fourth Annual Report of the work of the Department of Agriculture of the State of New York for the year ending September 30, 1896.

CHARLES A. WIETING,

Commissioner of Agriculture.

DEPARTMENT OF AGRICULTURE.

Commissioner.

CHARLES A. WIETING, Cobleskill, N. Y.

Assistant Commissioners.

First Division........................GEORGE L. FLANDERS,
Albany, N. Y.

Second Division................FREDERICK J. H. KRACKE,
No. 317 Washington Market, New York, N. Y.

Third Division.........................HENRY S. AMBLER,
Chatham, N. Y.

Fourth Division..........................T. JAMES OWENS,
Steuben, N. Y.

Fifth Division....................S. BROWN RICHARDSON,
Lowville, N. Y.

Sixth Division.........................CHARLES R. PAYNE,
Hamilton, N. Y.

Seventh Division......................VERLETT C. BEEBE,
Arcade, N. Y.

Eighth Division......................WILLIAM T. HUGHES,
Room 221, Powers' Block, Rochester, N. Y.

Ninth Division.........................ASA L. TWITCHELL,
Springville, N. Y.

Tenth Division...........................JAMES P. CLARK,
Falconer, N. Y.

REPORT.

In submitting this, the Fourth Annual Report of the Department of Agriculture, permit me to say that I assumed the duties of office on the 1st day of May, 1896, so that I have personal knowledge of the work from that time forward. When I took charge I found that the State for the purposes of the work had been divided into ten divisions, as follows:

First Division.— Comprising the following counties: Albany, Otsego, Schenectady, Schoharie, Rensselaer and Washington.

Second Division.— Comprising the following counties: Kings, New York, Queens, Richmond, Suffolk, and one-half of Westchester.

Third Division.— Comprising the following counties: Columbia, Delaware, Dutchess, Greene, Orange, Putnam, Rockland, Sullivan, Ulster, and one-half of Westchester.

Fourth Division.— Comprising the following counties: Essex, Fulton, Hamilton, Herkimer, Montgomery, Oswego, Oneida and Warren.

Fifth Division.— Comprising the following counties: Clinton, Franklin, Jefferson, Lewis and St. Lawrence.

Sixth Division.— Comprising the following counties: Broome, Chenango, Cortland, Madison, Onondaga, Tioga and Tompkins.

Seventh Division.— Comprising the following counties: Chemung, Genesee, Livingston, Schuyler, Steuben and Wyoming.

Eighth Division.—Comprising the following counties: Cayuga, Monroe, Ontario, Seneca, Wayne and Yates.

Ninth Division.— Comprising the following counties: Erie, Niagara and Orleans.

Tenth Division.— Comprising the following counties: Allegany, Cattaraugus and Chautauqua.

A careful examination of the divisions as above set forth has convinced me that some of them should be changed; I have, however, been so busy with other matters up to the present time that I have not given this subject the consideration that would be necessary to determine just what the changes should be.

I also found that the employes or agents in the different divisions were under the civil service rules, and that these places had to be filled from the eligible list of the Civil Service Commission; the assistant commissioners at that time, however, were exempt; since coming into office I have received the resignations of the different assistant commissioners, with the exception of Mr. Geo. L. Flanders, of the First Division, who has been assistant commissioner since the formation of this department, and whom I have reappointed; and Mr. J. P. Clark, of the Tenth Division, whom I have also reappointed. In the other divisions I have made new appointments, so that the assistant commissioners are now as follows:

First Division.—Geo. L. Flanders, Albany, N. Y.
Second Division.—Frederick J. H. Kracke, New York city.
Third Division.—Henry S. Ambler, Chatham, N. Y.
Fourth Division.—T. Jas. Owens, Steuben, N. Y.
Fifth Division.—S. B. Richardson, Lowville, N. Y.
Sixth Division.—Chas. R. Payne, Hamilton, N. Y.
Seventh Division.—Verlett C. Beebe, Arcade, N. Y.
Eighth Division.—Wm. T. Hughes, Rochester, N. Y.
Ninth Division.—Asa L. Twitchell, Springville, N. Y.
Tenth Division.—J. P. Clark, Falconer, N. Y.

I have made but few changes in the employes. The appointments that I have made in adding to the force have been by selections from the civil service list in conformity with the civil service rules and the laws of the State. I find that the demand for work along our lines in the different portions of the State is increasing gradually as knowledge of the Department becomes more extended.

Frequent conferences have been held with the assistant commissioners for discussion of the important questions coming up from time to time before them in their different divisions with the idea of better promoting uniformity and efficiency in the work, and I have thereby put myself in close touch with the work throughout the State.

Reports of the work of the men as performed weekly are made to this office, and I am of the opinion that every man now in the Department is actively engaged in the prosecution of the work.

The reports of the several assistant commissioners are submitted herewith and show that the results produced are in the interest of the consuming public.

GENERAL WORK OF DEPARTMENT.

The general work of this Department may be divided as follows:

First.—The enforcement of the milk law.

Second.—The enforcement of the oleomargarine or imitation butter laws.

Third.— The enforcement of the cheese law.

Fourth.—The enforcement of the law relative to the care and feed of cows from which milk is drawn for sale.

Fifth.—The enforcement of the vinegar law.

Sixth.—The enforcement of the law relative to the diseases of domestic animals.

Seventh.—The enforcement of the law relative to the prevention of diseases among bees and fruit trees.

Eighth.—The distribution of money among the agricultural societies of the State.

Ninth.— Conducting the work of Farmers' Institutes. (The institute work.)

Tenth.—The enforcement of the law relative to Geneva and Ithaca agricultural experiment stations. (Such supervision and direction of the work of these stations as is required by the Agricultural Law.)

MILK.

The enforcement of the milk laws as provided in sections 20, 22 and 23 of chapter 338 of the Laws of 1893, which are as follows:

Section 20. **Definitions.**—The terms, butter and cheese, when used in this article, mean the products of the dairy, usually known by those terms, which are manufactured exclusively from pure, unadulterated milk or cream or both, with or without salt or rennet, and with or without coloring matter or sage. The terms oleomargarine, butterine, imitation butter or imitation cheese, shall be construed to mean any article or substance in the semblance of butter or cheese not the usual product of the dairy, and not made exclusively of pure or unadulterated milk or cream, or any such article or substance into which any oil, lard or fat not produced from milk or cream enters as a component part, or into which melted butter in any condition or state, or any oil thereof, has been introduced to take the place of cream. The term adulterated milk, when so used, means:

1. Milk containing more than eighty-eight per centum of water or fluids.
2. Milk containing less than twelve per centum of milk solids.
3. Milk containing less than three per centum of fats.
4. Milk drawn from cows within fifteen days before and five days after parturition.
5. Milk drawn from animals fed on distillery waste or any substance in a state of fermentation or putrefaction or on any unhealthy food.
6. Milk drawn from cows kept in a crowded or unhealthy condition.
7. Milk from which any part of the cream has been removed.
8. Milk which has been diluted with water or any other fluid, or to which has been added or into which has been introduced any foreign substance whatever.

All adulterated milk shall be deemed unclean, unhealthy, impure and unwholesome. The terms, pure milk or unadulterated milk, when used singly or together mean sweet milk not adulterated, and the terms pure cream or unadulterated cream, when used singly or together mean cream taken from pure and unadulterated milk.

§ 22. **Prohibition of the sale of adulterated milk.**—No person shall sell or exchange, or offer or expose for sale or exchange any unclean, impure, unhealthy, adulterated or unwholesome milk or any cream from the same, or sell or exchange any article of food made from such milk, or of or from cream from the

same, or manufacture from any such milk or crea
same, any article of food.

§ 23. **Regulations in regard to butter and cheese factories.**— No person shall sell, supply or bring to be manufactured to any butter or cheese factory any milk diluted with water, or any unclean, impure, unhealthy, adulterated or unwholesome milk, or milk from which any of the cream has been taken, except pure skim milk to skim-cheese factories. No person shall sell, supply or bring to be manufactured to any butter or cheese factory any milk from which there has been kept back any part of the milk commonly known as strippings, or any milk that is sour, except pure skim milk to skim-cheese factories. The owner or proprietor or the persons having charge of any butter or cheese factory, not buying all the milk used by him, shall not use for his own benefit, or allow any of his employes or any other person to use for his own benefit, any milk, cream, butter or cheese or any other product thereof, brought to such factory, without the consent of the owners of such milk or the products thereof. Every butter or cheese manufacturer not buying all the milk he uses, shall keep a correct account of all the milk daily received, of the number of packages of butter and cheese made each day, and the number of packages and aggregate weight of cheese and butter disposed of each day; which account shall be open to inspection to any person who delivers milk to such factory.

I find that the law is often misinterpreted by people who are friendly to it and its enforcement. It seems to arise from the fact of a misunderstanding as to the standard. A careful examination of the sections above quoted will show, first, that the sale of unclean, impure, unhealthy, adulterated or unwholesome milk is prohibited. It matters not how the facts are determined that the milk was in such condition or state, its sale or offer for sale in such condition is a violation of the statute. It is not a question how it became so. A further examination will disclose the fact that adulterated milk is defined in section 20, under eight different headings, and if it is adulterated within the meaning of any of the eight definitions, its sale or offer for sale is a violation of the statute. We never charge the defendant with having adulterated his milk, that is, of having performed the physical act, unless we have a case in which we have the evidence that he actually did it. The charge is that he offered or exposed for sale or exchanged milk in that condition which is a violation of the statute.

There is a question relative to this law that has been discussed much of late by men of some influence in the milk work and it is to-day assuming a serious aspect, so much so that I deem it best at this time to respectfully call your attention to it; namely, there are those who are advocating that the standard, so-called, for milk in the State of New York, shall be done away with, and that milk shall be sold upon the markets and the streets under what would be called the guarantee system; that is, the vendor shall guarantee the amount of fat which he says his milk contains; or, in other words, he shall guarantee his milk to be of a certain quality containing a certain amount of fat.

The advocates of this theory claim that it would have a tendency to improve the grade of milk sold to the consuming public. I have examined with some care the reports of this Department, and the reports of the Departments in other States where commissioners are charged with the enforcement of similar laws, and am of the opinion that the change above indicated, if made, would be productive of no good and of much harm to the consuming public. The grounds for my belief in this are, first, that prior to 1884, in the State of New York, there was no standard for the purity of milk, and, also, that prior to that time the milk sold in the cities of this State was largely adulterated, some of it being adulterated even to the extent of both watering, skimming, coloring and having preservative added to it. This product was sold in the market as milk. In 1884 the present standard was adopted by the Legislature of this State. Since that time the reports of my predecessors in office show that the milk routes throughout the different portions of the State over which the milk supply was taken to the large cities have gradually been increased and lengthened until now the distance in many instances to which they go for their milk supply is three and four times as far as it was prior to the inauguration of the present system. The New York division alone, according to the report of Assistant Commissioner Kracke, received over these milk routes last year eighty million gallons, or about eight million forty-quart cans; this is double the number of such cans which the same territory consumed prior to 1884. The same thing is true of the cities of Rochester, Buffalo, Syracuse, Utica and Albany. More than that, the milk now sold on the streets of these different cities is practically, if not all, above the standard. It is only now and then that our inspectors find samples of milk being offered for sale that come below the legal standard, and they find many that are far above; so that I believe to-day that it is safe to say that pure milk is the rule rather than the exception; whereas, prior to 1884, it was the exception rather than the rule. Now, if this statement is a fair statement of the facts, and I believe it is, then we must admit that the enforcement of the law has been productive of great good to the consuming public.

One of the arguments that has been put forward by the advocates of the change of system is that under the new system there would be a tendency to raise the grade or standard of milk by competition. Milk would be sold purely on its quality as a basis, which they claim is not true of the present system. To such people I respectfully suggest that there is milk being sold in the city of New York from bottles at 12 cents a quart, which is known to have been drawn from carefully selected herds that are kept in perfectly healthy condition with the proper hygienic surroundings, and that it brings that price on account of its cleanliness and its quality. I do not understand why having a standard below which milk shall not be sold as pure milk in any way hinders any man from improving the grade of his own product and selling it on its merits. To the advocate of this idea I wish to suggest that there are many men in the milk business who do not have the same high ideas that he does relative to the quality of milk; it is with some of them simply a question of revenue without thought or care as to the quality or its value to the consumer. I think it is not any exaggeration to say that there are many consumers of milk who do not know what its constituents are and could not tell whether good milk ought to have one, two, three or four per cent. of fat, and if this statement be true, how easy it would be to sell that class of people milk as whole, pure milk of an extraordinary quality, guaranteeing it to contain one per cent. of fat. It should be remembered that the duty of this Department is not so much to protect the producer of milk as it is to protect the entire consuming public. This is a question under the police laws of the State for the care and preservation of the health of the people.

Another objection to the theory presented is that the enforcement of the law would be much more difficult and costly. In examining milk to-day to determine whether it comes below the standard, we take samples in a certain way prescribed by law, delivering one sample to the chemist for analysis, who determines the extent of the amount of water, solids and fat it contains. Having determined that question, if it fall below the standard requirement, our case is brought in court. We have to prove that state of facts, but not what the standard is, or, in other words, what the contract is as fixed by statute. It is a matter which the court takes cognizance of; we do not have to prove it. It can readily be seen that under the proposed system we would have, in addition to that in each case, to show what the contract was between the milk peddler and the consumer, and then to show that the sale of the milk was a violation of that contract. This would lead to an endless number of quibbles, and, consequently, much more litigation, which would mean more difficulty than we have now. It is needless to say that that would be a hindrance or drawback in the work. I am of the opinion that the enforcement of the law is none too easy now for the benefit of the public; yet, notwithstanding this condition, some of the advocates have said its enforcement would be easier.

The advocates of this change are putting it in general terms as follows: Allow people to sell goods if they sell them for what they are.

One of my deputies not long since, in talking with a man who was supposed to represent the National Department of Agriculture, told him that the principle he was advocating was the same principle that the oleomargarine people asked for at the time our present law was adopted. His response was, "Why, sir, I am in favor of allowing the oleomargarine people to sell their goods if they sell them for what they are." It seems to me that this explains the situation in a nut shell. In my estimation not only a certain number of milkmen who desire a little more latitude, a little more freedom, are behind this, but also other interests which have been practically driven out of the markets of this State by the decisions of the courts of the State of New York and the Supreme Court of the United States. I think that it would be extremely ill-advised at this time to take any backward steps along this line without it at first being made to appear beyond a reasonable doubt that such change would be beneficial to the people. He or they who ask that a great municipality reverse its policy to accept a new one on theory alone should first be asked to demonstrate that the change would be for the better. Why cannot these people who seem to wish, the same as I wish, to improve the quality of milk until all of it sold upon the market shall be as pure as it is when drawn from the cows, why not let them enter into the market and let that competition which they speak of with so much enthusiasm improve the quality of the milk sold under the present condition of things. It seems to me that if it would work without a standard it would also work with one. There was no standard in this State prior to 1884 and in all those years competition does not seem to have improved the quality of the milk much, indeed, it seems that the milk gradually but surely deteriorated. What harm can there come to that cause from the fact that the State of New York says that no milk falling below a certain standard shall be sold upon the market as whole or pure milk? I do not understand that these people desire to go that way; in all their talks it would seem that they wanted to go the other.

For the purpose of ascertaining what the results had been in sister States, where the same or similar laws were being enforced, I not long since addressed a communication to the different commissioners in the different States where they had milk standards asking a series of questions as follows:

1st. Do you believe in having a milk standard?

2d. Your reasons for the same?

3d. If you do not believe in a milk standard, would you advocate a law requiring milk vendors to guarantee the amount of fat in the same sold by them, leaving it to them to specify the amount?

4th. If you do not believe that such a law would be productive of as good results as one having a milk standard, please give your reasons.

5th. If you do believe that such a law would be as good, if not better, than a milk standard, please give your reasons.

6th. State what, if any, benefit has been derived by the adoption of your present milk standard.

This communication I sent to the various States, and have received replies as follows:

Iowa.

Question. Do you believe in a State having a milk standard?

Answer. I most certainly do.

Question. Your reasons for same?

Answer. The good results which have been obtained since the law was enacted and put in force by the proper officers of Iowa should convince anyone of the necessity and wisdom of a law similar to the one in force in this State. Although the law falls short of accomplishing the full results that should be obtained, insomuch as it does not provide that standard milk shall contain a certain per cent. of solids, but simply that it shall be clean, wholesome, not adulterated or skimmed milk, but must contain three per cent. or more of butter fat. Even with this defect the law has improved the quality of milk sold in our State from year to year, so that the present year will show an average of about four per cent. butter fat from samples taken, numbering about six thousand. These samples were all collected by State milk inspectors, located in cities having more than ten thousand inhabitants, from the milk dealers operating wagons, depots and stores. The city milk patron, having no way of determining the quality of milk sold, may be termed an innocent purchaser and, without a law guaranteeing to him milk of a certain standard, he would be at all times at the mercy of the dealer; the honest dealer would be driven out of business through the competition of the dishonest one. When we take into consideration that the larger part of this supply as sold in our cities is consumed by the invalid, the infant and the child, it surely is the duty of the State to see that they are protected in their purchase of so valuable an article of food.

Question. If you do not believe in a milk standard, would you advocate a law requiring milk vendors to guarantee the amount of fat in the milk sold by them, leaving it to them to specify the amount?

Answer. I would not advocate or recommend such a law. The law would not be practicable, and I think its enforcement would be impossible. It would take the entire matter from the hands of State officials as prosecutors and place it in the hands of individuals who might feel that they were being dishonestly dealt with. The parties receiving small quantities of milk in a majority of cases would be unable to determine without considerable expense the quality of the milk sold, so as to know whether it was up to the guarantee made by the vendor; in the case of a creamery or cheese factory, the fact of a standard does not interfere with the factory buying milk and paying for it according to the amount of butter fat or other solids it may contain, and as all such factories can with but little trouble know the quality of milk delivered to them, and therefore are not obliged to receive milk and pay for it by either the hundred or the gallon, thereby encouraging the delivery of poor milk. I am not an advocate of the State stepping in and trying to protect such factories. In other words, they have the matter in their own hands, and honesty and self-interest should cause them to buy and pay for milk strictly on its merits by use of the Babcock tester.

W. K. BOARDMAN,
State Dairy Commissioner.

Maine.

Q. 1. Do you believe in a State having a milk standard?

Answer. Yes, most decidedly; and that standard should be as high as is consistent with the average quality of the milk produced in that State.

Q. 2. Your reasons for same?

Answer. First, for the purpose of protecting honest producers. Second, for the purpose of detecting fraud and punishing dishonest handlers of milk. Third, for the purpose of protecting consumers and enabling them to secure milk of prime quality.

Q. 3. If you do not believe in a milk standard, would you advocate a law requiring milk vendors to guarantee the amount of fat in the milk sold by them, leaving it to them to specify the amount?

Answer. I am not in favor of a law requiring milk vendors to guarantee the amount of fat in the milk sold by them.

Q. 4. If you do not believe that such a law would be as productive of as good results as a milk standard, please give your reasons.

Answer. I am not in favor of such a law, as I believe it would open the door for unlimited fraud, unless the milk is very closely inspected at all seasons of the year.

Q. 6. State what, if any, benefit has been derived in your State from the adoption of your present milk standard.

Answer. The benefits derived by our State from our milk law has been: First, a general improvement in the quality of milk placed upon our markets; second, a driving out of irresponsible and dishonest producers and handlers of milk; third, it has given much encouragement to the honest milk producers.

B. WALKER McKEEN,
Secretary Maine Board of Agriculture.

Massachusetts.

BOSTON, MASS., *December* 4, 1896.

HON. CHAS. A. WIETING, *Commissioner of Agriculture, Albany, N. Y.:*

Dear Sir.—Replying to your favor of the 2d, I enclose herewith my answers to your questions as well as I can answer them in the way in which they are stated, and I also enclose a portion of a paper which I read before our State Board of Agriculture last year, in which I discussed the question of a statutory standard somewhat extensively, giving in detail some of my arguments for such a standard, and meeting some of the objections that we find in this State. I look upon the statute standard as something that is far from perfect, the ideal being selling the milk according to quality, but pending the arrival of the proper time for such a radical change in the law as that, I think an arbitrary statute standard is desirable. We find so many men that are engaged in the retail milk business who are disposed to water milk or otherwise adulterate it, and who appear to be of a disposition to do everything that seems to them to be reasonably safe to evade the law, that I have some grave doubts in my mind as to the practical details of enforcing a law requiring the selling of milk according to quality. The theory seems right, but some of the details would have to be worked out with much care.

Q. 1. Do you believe in having a milk standard?

Answer. Yes.

Q. 2. Your reasons for same?

Answer. (See page 20.)

Q. 3. If you do not believe in a milk standard, would you advocate a law requiring milk vendors to guarantee the amount of fat in the milk sold by them, leaving it to them to specify the amount?

Answer. The highest ideal is selling according to guaranteed quality.

Q. 4. (Not answered.)

Q. 5. If you do believe that such a law would be as good if not better than a milk standard, please give your reasons for that belief.

Answer. The times are not yet ripe for the quality standard, but we should face that way.

Q. 6. State what if any benefit has been derived in your State from the adoption of your milk standard?

Answer. The consumer feels more confidence in what he buys, and good farmers are saved from competing with poor farmers.

Yours respectfully,
GEO. M. WHITAKER.

Answer to second question by Mr. Whitaker, being part of a paper, entitled "Milk Supply of Massachusetts Cities," read by him before the Massachusetts State Board of Agriculture, at Dalton, Mass., on December 4, 1895.

SECOND PROBLEM — THE STANDARD.

Another problem growing out of the milk question relates to the standard. Should there be any statute standard,— that is, should the State by law prohibit the sale of pure milk when its quality is below an arbitrary standard? Some good and intelligent people say "No." A person interested in maintaining the negative could quote the English practice, which is in effect to have no standard but the poorest milk which it can be proved has been drawn from the udder of a cow, and not artificially adulterated. In this country no less an authority than the Hon. Edward Atkinson is on the same side.

Need of a Standard.

Every one will agree that the Legislature ought not to meddle with an article whose quality can be readily and conveniently determined. But, in case of an article of which it is impossible or inconvenient for the public to judge, the almost universal opinion is that a legal standard should be fixed. There is a gas standard and an oil standard; there are standards for drugs and for liquors; a standard age for veal is established. The impossibility of ordinary people promptly judging of the value of jewelry has led to the prohibition of peddling it. Milk is particularly an article of which the consumer cannot readily judge. It left at his house often before he is up in the morning, and it must go into immediate use. He has no appliance or opportunity for examining the quality, and usually can not take the time or trouble to look up the proper officers and present a sample to them. In other cases where there is such difficulty in determining quality, and where there is a possible wide variation in it, the law steps in and establishes an arbitrary standard.

Milk of unquestioned purity was found at the Ohio State fair with 8.41 per cent. of solids, and it sometimes has as high as 20 per cent.

This means that a purchaser may get anywhere from 8 1-2 to 20 pounds of food for every 100 pounds of milk that he buys; and under existing conditions it means that the farmer who makes superior or even average milk must sell some of his milk solids in competition with water from his neighbor's cows.

If some system of ready testing could be adopted, and then if milk could be sold on its merits, at a price proportionate to its food value, no law would be necessary. That would be an ideal condition. I look forward to the time when the Babcock or other similar test will become common, and the people so intelligent that milk can be sold at various prices according to the varying qualities. But that time has not come as yet. Consequently, the circumstances justify a Legislature in designating a point below which one cannot go in selling milk. Courts have affirmed this principle, and common sense ratifies the decision. Such a statute is needed to protect the consumer against fraud. Water, even if drawn from the cow's udder, has no more food value than it has when drawn from the pump. A standard is needed in the interests of agriculture to save the producer of the better qualities of milk from competing with what the Supreme Court of Rhode Island denominates as "an article useful for irrigation only."

An arbitrary statute standard is further needed, in the interests of a good and progressive agriculture, to check a tendency which always exists in the sale milk business, viz., a tendency to breed down instead of up. By continuously breeding from cows that produce large amounts of milk, regardless of quality, we raise up generation after generation from whose udders is drawn more and more milk which is steadily growing poorer and poorer. Breeding for a purpose can accomplish much; but when that purpose, expressed or implied, is a deterioration in quality, it is not identical with the best agriculture, and demands a check. This it receives in a law which says, "Thus far shall thou go and no farther," by prohibiting the sale of any milk below a designated quality. A compilation of ten years' records of the State Board of Health shows an increasing per cent. of samples below the standard. Though this includes adulterated milk, it probably shows that there is an increasing number of cows producing poorer milk, as a result of the tendencies of the sale milk business.

Another reason for a statute standard of milk is the help it gives in prosecuting those who adulterate milk. Within certain broad limits the chemist can tell by the proportion of the different solids in milk whether it has been tampered with. I recently met a case where analysis showed that a certain sample of milk had 4 per cent. of fat and 7.75 per cent. of solids not fat. The relation between those two figures told beyond doubt that the milk had been watered, for normal milk with 4 per cent. of fat should have at least 9 per cent. of solids not fat. But the case is not always so clear. Within narrow limits water or skim-milk could be added, or some cream removed, and detection would be difficult. Hence a statute standard may be a great help in detecting the man who delibertely cheats the consumer by adulterating milk outside of the cow.

A report of the milk supply of London, by a special analytical and biological commission, in the "British Medical Journal" of July 6, 1895, says that "in an endeavor to enforce purity it is of the first importance to be able to define what is meant by pure; and it will be seen that the establishment of some arbitrary standard of pure milk is an essential preliminary to any effective action being taken to put an end to the wholesale sophistication by which the poor especially are injured and imposed upon. Those who maintain that whatever can be milked from a healthy cow is milk, are able to show extraordinarily poor specimens, which, for all their poverty, are still milk. The English laws are intended to prevent the sale, not of milk of poor quality, but of that which has been fraudently tampered with, so that the public analyst is bound to pass as genuine all milks which are at least equal in composition to the poorest genuine milk, although in a great majority of cases thus passed he has to do with milk artificially and not naturally weak. If a high standard were fixed, the result would be to condemn much genuine milk; while, if a low standard were adopted, good milk would be watered down to it. A standard should be fixed with which all milk that is sold should conform, and, however pure or genuine the milk may be, it ought not to be allowed to be sold as whole milk if it is below standard."

The greatest good to the greatest number seems to call for a statute standard. Unquestionably, it arbitrarily stigmatizes as unlawful the sale of some pure milk which has some food value, but the end justifies this small amount of theoretical wrong.

What Shall the Milk Standard Be?

Massachusetts has answered 13 per cent. of solids, except in May and June. The question, therefore, practically resolves itself to this: Is the Massachusetts standard of 13 per cent., which is the same in Minnesota and New Hampshire, too high? There is some opposition to this standard, and hardly a winter goes by without an effort to have the Legislature reduce it. This is my excuse for taking time to consider an old question.

I desire, at the outset, to consider parenthetically one phase of the enforcement of the law. All laws should be enforced with reason and common sense. This is not the opinion of a mere layman, but it has the highest of legal authority. In the case of a statute designating a date after which it would be illegal to be found with certain game in one's possession, no officer would think of arresting a man because he had such game, as the tones of the clock striking the hour of midnight died away in the distance, or even at 1, 2 or 3 o'clock in the morning; but, should an officer make an arrest for such a narrow violation of law, it is doubtful whether any court would convict. Similarly, in the case of a statute standard of 13 per cent. of solids in milk it would be impossible to secure a conviction on milk which had 12.9, 12.8 or even 12.7 per cent. of solids. Those who ask for a reduction of the standard claim that the law should be enforced to the last one-hundredth of 1 per cent., hoping thus to make it unpopular; and they argue that the officers who fail to enforce the law in this way fail to do their duty. But milk inspectors, the Board of Health and the agents of the Dairy Bureau, acting on the best legal advice, would not enforce the law so literally if they could. Furthermore, they could not if they would; for no case can be entered in court without the consent of the judge, and to his judgment much latitude is allowed. No judge will entertain a case of a technical, hair-splitting violation of law, not unless the evidence is sufficiently strong to make guilt almost certain. Hence, milk must be sufficiently below the standard to make conviction reasonably sure, even if the defendant had the services of some talented criminal lawyer, who works zealously for his client, and who uses all his ability to throw suspicion on methods of analysis or accuracy of the sampling. Consequently, in the enforcement of the milk law, the enforcement standard is usually not over 12.5 per cent.; and if the statute standard were to be lowered, the enforcement standard would have to be correspondingly reduced.

With this explanation of the slight elasticity in the standard for purposes of legal prosecution, we return to the query, Is the present standard too high? On one point all can agree; one fact is so well established that there can be no dispute about it,—namely, average milk has 13 per cent. of total solids. A volume of authority could be quoted on this point.

The Average Quality of Milk.

The United States department, in its handbook of experiment stations, as well as in its annual reports, alludes to 13 per cent. as being the average. Major Alvord, the chief of the dairy division, says that normal milk ranges from 10 to 15 per cent. of total solids. The Massachusetts Board of Health concluded that the standard adopted by the statute was a little below the general average of milk throughout the State, having found the general average for total solids to be between 13.2 and 13.3.

The Boston milk inspector finds that the samples taken by him average about 13 per cent.; a majority of even the suspicious samples are all right. Mr. Blair, the chemist for C. Brigham Co., milk contractors, finds that the average analysis of milk received by that company is 13 per cent. or above, and this average includes occasional samples of watered milk. The milk on the company's Brookfield car in 1894 was analyzed 1,170 times through the whole year, and the average was 13.23. More than one-half of the samples taken by the Board of Health, including those that are adulterated or suspicious, are above the standard. Professor Goessmann, reporting to the State Board of Health that increasing density of population is coincident with decreasing quality of milk, finds in the western part of the State only from 19 to 22 per cent. of the specimens below standard.

The New York Experiment Station analyzed at one time 938 samples, and found the average 13.64; it was found that Jersey milk averaged 15.4. The Maine experiment station report for 1894 gives analyses of the milk of three cows for twelve weeks each, averaging 13.23. The Connecticut report in 1891 gives a number of analyses which averaged 12.99. A return from 49 cheese factories in New York in 1893 gave the average 12.72. Professor Babcock says the average composition of milk is 12.8 per cent. of total solids. The Lowell milk inspector, averaging his analyses by the month, finds the range of monthly averages to be from 12.47 to 13.57; this includes samples of adulterated milk. In the ninety-day dairy tests at the World's Fair at Chicago the average was 13.41. In England 120,540 samples were analyzed by the Aylesbury Dairy Company in eleven years, between 1881 and 1891, and the average was 12.90.

Professors Robertson, Chandler and other authorities all allude to the average composition of milk as being 13 per cent. In Johnson's Encyclopaedia twenty-one authorities quote an average of 13.32. Professor Cooke says: "The Massachusetts law requires 13 per cent. of total solids, and that is not a bit too high. No man ought to keep cows which would give less than that. But the average composition of the milk produced in the whole State of Vermont is a little above the Massachusetts standard. It will run 13.5 per cent., and very likely 14 per cent. is the average of the total solids of the milk in this State. That being the fact, there is certainly no reason why Massachusetts and other States cannot get milk that is 13 per cent. It is not necessary that you should have cows that give a small amount of milk, because cows can easily be found that give moderately large quantities of a good quality of milk."

The line of proof could be continued at great length, but the evidence would be merely cumulative. It can be considered as an established fact that the well-mixed milk of various cows in various stages of lactation will rarely, if ever, be below the standard, and will be quite uniform in quality from day to day. I think that this proves the justice of the Massachusetts standard. I do not see how any one can dispute the proposition that the purchaser of any article of variable composition is entitled to receive average quality. The consumer who pays the regular, or average, price for milk, and does not get an average article — 13 pounds of food in 100—is wronged; and so far as his rights go it makes no difference whether the wrong is due to the physical inefficiency of the cow or the moral delinquency of the milkman.

But I understand well what the word "average" means. I admit that injustice is sometimes done by basing conclusions on averages. An employer who overpays one man by giving him fifty dollars per week and who underpays another with only ten, does an injustice to both, while he averages to pay reasonable and fair wages. We all have heard of the tippler and total abstainer who averged to drink brandy and water, but one drank the brandy and the other the water. I know that, though the average composition of milk is 13 per cent. of solids, much milk is below the standard; and I will not be so hasty as to assume that I have proved the justice, or even the expediency, of the statute standard by the fact that it represents the average quality of milk. I am willing for the sake of fair play to follow the discussion a little further. Is any injustice done by the law? Why is a change demanded? The 13 per cent. standard being on the statute books and being the average composition of milk, the burden of proof is upon those who ask for a change. What are the claims which they make?

Objections to the Standard.

First.—" The law makes illegal the sale of much wholesome food." This claim at first glance seems to have much force, and there would be much common-sense in it if the advocates of a change in the law were asking for an opportunity to sell low-grade milk at a low-grade price. But that is not what is wanted. The opponents of the present law ask to have it modified so that they can sell eleven or twelve pounds of food at the same price which the average producer receives for milk of average quality. If some practical law could be drafted, which would not be full of loopholes for the advantage of the dishonest, by which the milkman could state what he sells and sell what he states, I would not object. If it were possible to have a 13 per cent. standard and also one of 11 per cent., for instance, each kind of milk to be properly marked and labelled and sold on its merits there could be no objection. (I have no faith in the possibility of such a law, in view of experience with the tendency of human nature to evade the provisions of the skim-milk law.) But it does seem wrong to ask the right to sell ten, eleven or even twelve pounds of food at the thirteen-pound price. The State Board of Health said in 1892: " Strangely enough, the pretence is often urged by milk producers that milk containing 11 or 12 per cent. of total solids is quite as wholesome or nutritious as that which contains 13 or 14 per cent. of solids. The absurdity of this argument is plain enough, since, if it were true, it might reasonably be asserted that milk having 7 or 8 per cent. of solids is as wholesome as that which has 11 per cent., and so *ad infinitesimum.*"

Second.—" The honest farmer is always in imminent danger of prosecution; a legal sword is constantly dangling over his head by a hair, ready to descend without any warning." This point exists in imagination rather than in actuality; but at a committee hearing, or where the demagogue can get attention, the statement can be amplified in thrilling and plausible language, just as ghost stories can be told which will make your blood run cold and your hair stand on end—but there are no ghosts.

Average milk has 13 per cent. solids, and the average mixed milk of average cows is constant in quality. Milk below standard is the exception. When it is found, unless it is very bad, a warning is sent and subsequent samples taken. If improvement is shown, no prosecution results. Even when complaint is made and the milkman found guilty, the court can put the case on file, instead of imposing the statutory fine, if there are mitigating circumstances. Hence the chance of trouble is slight. Figures reveal the same thing.

The State Board of Health examined 3,551 samples last year, 287 warning notices were sent out, and finally 76 complaints were entered in court; of these, 63 resulted in conviction. Half of these cases were for milk below 11 per cent. of solids. In 1893 the Cambridge milk inspector took 1,882 samples of milk; 26 were not of standard quality, and, after sending out warnings and following the cases up, 8 complaints were entered in court. In Lowell in the same year there were 1,258 inspections; 26 warnings that milk was below the standard were sent out; in almost every case they caused an improvement in the quality of milk sold, and, out of 1,258 samples taken, 17 cases were entered in court. The Boston milk inspector, for the year ending February 28, 1894, reported 13,623 samples of milk examined, out of which 267 prosecutions resulted. These figures, which include all the adulterated cases, show what slight danger there is of prosecution. I took at random one of the Boston milk contractor's books, and found that out of 1,000 analyses there were 58 instances when the milk had been so bad as to call for letters of complaint.

Third.—" Under the law an honest man may be branded as an adulterater of milk." This is similar to the above. At hearings before legislative committees, where an attempt is made to reduce the standard, we are occasionally treated to sympathy-stirring portrayals of the man of high standing in his town, very likely a deacon in the church, who is summarily dragged into court, because, forsooth, an innocent cow happened one day to give milk of less than 13 per cent. solids; and for this temporary delinquency on the part of the cow we are told that the exemplary citizen is branded on court records as one who has deliberately adulterated milk with the purpose of swindling his fellow man.

There is a theoretical possibility of such things. It is true that the law makes no distinction between milk below standard naturally and that below standard through the artifice of man. But, between the average quality of milk, the leeway required by the courts and the prevailing system of sending out warnings, the danger of prosecution, as shown under another head, is extremely microscopic. It is not wholly wrong, however, that the law is just as it is on this point. One court has said that there is no difference between watering milk inside the cow and watering it outside of her. The Rhode Island Supreme Court, in a decision sustaining a milk-standard law says that "if a cow habitually gives milk below standard, she is of no value to her owner as a milk producer, unless he can sell her milk to his unsuspecting neighbor for a price in excess of its value —a species of fraud which ought not to be tolerated. The section is but a slight extension of the provisions which prohibits the sale of adulterated milk, and, like that, was designed to protect the public against imposition."

There is one danger to milk producers which is common to all occupations. All persons employing help are liable for the acts of their employes, and hence a morally innocent man may in a few extreme cases be legally guilty of selling milk which has really been adulterated by the hand of man—some employe. A conscientious and high-minded editor from Philadelphia was in Boston a few days ago. While in that city something appeared in his paper which an aggrieved party thought to be libellous, and on the gentleman's return to his home he was arrested on a charge of criminal libel. Morally he was innocent, technically he may have been guilty; his arrest was one of the perils of living and doing business.

A case was noticed in a local paper a few weeks ago as being so excessively aggravating as to call for an editorial denunciation of the milk law. I found that the criticism of the law was based merely on the fact that the convicted man was of excellent standing in the community—a man whom every one respected and esteemed. Investigation showed that he had received four warnings from the contractor to whom he sold milk that it was below standard; in spite of that, it did not improve, but at length analysis disclosed such a disproportion between the solids not fat and the fat that the conclusion was inevitable that the milk had been watered. The case was then turned over to the Board of Health, whose inspector took samples of the milk, and he, too, found that it had been watered.[*] Though the case appealed to the sympathy and good-will of the defendant's fellow townsmen on account of his general integrity and good character, there could be no disputing the fact that some one had fraudulently added water to the milk.

As there is a well-established relation between the solids not fat and the fat, and as it has been abundantly proved that 13 per cent. milk will have about 3.75 per cent. of fat, the cheapness, accuracy and convenience of the Babcock test make it possible for every farmer to keep track of the quality of what he is sending to the market.

Fourth.—"Enforcing the law occasions much trouble." This we hear sometimes from Boston milk contractors when they have been exceedingly annoyed by milk below standard, after repeated warnings have been sent; but the trouble of enforcing a law is no argument against it. If such a claim were to have weight, nearly all of the criminal statutes now in force would be repealed.

Fifth.—"There is much difficulty in making standard milk." If a majority of farmers can and do produce milk of standard quality, the minority can do the same if they will make the conditions the same. If the continued policy of any milk producer is to get cows that will give the largest product possible, with no thought of quality except barely to save himself from legal prosecution, he has no right to say that it is difficult to make standard milk.

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[*] Fat, 4.0; solids not fat, 7.94; total solids, 11.94.
" 3.3; " " " 7.74; " " 11.04.
" 3.6; " " " 7.68; " " 11.28.

Sixth.—I find our law denounced in a New York dairy paper as an attempt to "instruct the Lord," with the assertion that "a law making it illegal to sell milk under 13 per cent. total solids might well be followed by one making it illegal to sell an apple weighing less than four ounces or a pig with a tail less than three inches in length." This attempt to ridicule the law is no argument, but advertises the ignorance of the person who makes it. The whole theory of a statute standard is the protection of the interests of the consumer against a fraud, and indirectly, the protection of the interests of the best class of producers.

Arguments for the Standard.

Having thus considered the need of some standard, and the fact that the present standard represents the average quality of milk, and having also noticed the reasons commonly urged for a change, I have already indicated why I favor the 13 per cent. standard, in the interests of the majority of milk producers as well as of consumers. Some of the points which I wish to make, by way of recapitulation, are as follows:

First.—A reduction of the standard would be an injustice to the majority of farmers who produce standard milk, in three ways, by increasing competition through an enlarged supply, by reducing the price on account of an increased surplus and also by decreasing consumption. The present law and its enforcement have done much to increase popular confidence in the milk supply, and have thereby increased the consumption, which might be injured by a decrease in the average quality. The "London Lancet" says that a statute standard "has a tendency to raise and maintain the quality of the milk supply."

Second.—A reduction would be an injustice to the consumers. The "British Medical Journal" says that the low standard has done great injury to the consumer as well as to the honest producer and vender.

Third.—A reduction would be only a temporary remedy for the troubles of the minority. With a continuation of the process of breeding down, in a few years there would be a respectable minority of cows whose product would be below the lower standard, were it 12, 11 or even 10 per cent. I have already spoken of the cow at the Ohio State fair, which produced 8.41 per cent. milk in competition for a prize for cows giving the greatest quantity. Producing quantity without thought for quality is like continually driving as near the edge of a precipice as possible; one has only himself to blame if some day he goes over. Moving the precipice would give no relief, so long as the venturesome proclivities remained. I do not mean that some farmers deliberately try to get as near the line laid down by the statute as they can without crossing it, but the drift of events leads practically to that result.

Michigan.

LANSING, MICH., *December* 4, 1896.

1. Yes.

2. Because it guarantees to purchasers a certain value which I do not believe can be effectually secured to them in any other way. For the added reason that it is a very much simpler matter to enforce such a law than any other.

(Questions 3, 4 and 5 not answered).

6. There has been steady improvement since the law became operative. In three months work during the summer months by one inspector only one sample sold by a peddler was found below the standard and that in a hotel, but a sample from the same party taken from the can was all right. The fact that the tests are so simple and accurate makes dealers careful to keep within the law.

C. E. STORRS,
Dairy and Food Commissioner.

Minnesota.

1st Q. Do you believe in a State having a milk standard?

Answer. I certainly do.

2d Q. Your reasons for same.

Answer. The setting of a State standard places a more uniform grade of milk on the market and prevents fraud to a large degree.

3d Q. If you do not believe in a milk standard would you advocate a law requiring milk vendors to guarantee the amount of fat in the milk sold by them, leaving it to them to specify the amount?

Answer. I do not believe in that kind of a law.

4th Q. If you do not believe that such a law would be productive of as good results as a milk standard please give your reasons.

Answer. Such a law does not compel a vendor to furnish high grade milk but merely to guarantee the fats it possesses.

5th Q. If you do not believe that such a law would be as good if not better than a milk standard please give your reasons for that belief

Answer. I do not believe it.

6th Q. State what if any benefit has been derived in your State from the adoption of your present milk standard.

Answer. Our State standard is 3.5 fats with heavy penalties; some States have only 3 per cent. The result with us is that milk very rarely runs below that standard and much of it runs up to 5 per cent. and 6 per cent.; our average for the year runs to 4 per cent., so you see 3.5 per cent. is none too high.

BERNDT ANDERSON,
Dairy and Food Commissioner.

New Hampshire.

1st Q. Do you believe in the State having a milk standard?

Answer. Yes.

2d Q. Your reasons for same.

Answer. Because it offers protection to the honest producer and the consumer.

3d Q. If you do not believe in a milk standard, would you advocate a law requiring milk vendors to guarantee the amount of fat in the milk sold by them, leaving it to them to specify the amount?

(Not answered.)

4th Q. If you do not believe that such a law would be productive of as good results as a milk standard please give your reasons.

Answer. Because it would practically offer no protection to anybody.

5th Q. If you believe that such a law would be as good if not better than a milk standard, please give your reasons for that belief.

(Not answered.)

6th Q. State what if any benefit has been derived in your State from the adoption of your present milk standard.

Answer. Justice to everybody engaged in the production and sale of milk, as well as the consumers, from the enforcement of the law.

N. J. BACHELDER,
Secretary New Hampshire Board of Agriculture.

New Jersey.

TRENTON, N. J., *December* 3, 1896.

HON. CHAS. A. WIETING, *Commissioner of Agriculture:*

Dear Sir.—In answer to your inquiries as to my official opinion as to whether or not I believe in a State having a milk standard, and my reasons therefor, and also as to what benefit the State has derived from the adoption of our present milk standard, I have to say: First, the State avails itself of an inherent right to fix a standard for milk the same as it does that a gallon shall contain so many cubic inches, or as in the case of illuminating oils, that only a certain grade shall be used for house illumination and fixes an arbitrary flash test to be used.

It has been decided by our Supreme Court that the State has the right to make a standard for milk and that the standard may not only insist on purity but may demand a certain degree of excellence. As to the present standard for milk in this State it was found after repeated trials that pure milk from a herd of healthy cows rarely or never fell below that limit when analyzed by a fair or accurate method of analysis. The principal method used to-day in the adulteration of milk is the abstraction of cream and the addition of water. These methods are looked upon by some people as merely commercial frauds, but my experience teaches me that the tampering with pure milk for the purpose of lowering its standard and commercial value involves serious consequences to the health and lives of the consumers. The former practice robs this important article of food of its nutrient value which is so necessary for the nourishment of young children and invalids.

When water is added to it it frequently involves even serious consequences in that the water itself may be polluted and thereby endanger the lives of the consumers.

The records of this office will show that persons have been convicted and fined for adding water to milk, and that water used for the purpose of debasing the article has on analysis been proven to have been contaminated and totally unfit for potable use. The milk laws in this State have been in operation about fifteen years, and while the object of the framers was of a commercial rather than a sanitary nature, an incalculable amount of good has resulted from their enforcement; to the dealer, financially, in that he has been protected against the buying of diluted milk; to the consumer, in that the dealer is subjected to an official watchfulness, and it is the privilege of both to prove their suspicions by asking for an official inspection of the milk they are receiving. In conclusion, I do not think it possible to find an intelligent citizen, not interested in the milk business, who would question the wisdom of the enactment of the milk laws at present on our statute books. Trusting that this short statement will answer your questions sufficiently, I am,

Very truly yours,

GEO. W. McGUIRE,
Dairy Commissioner.

Ohio.

COLUMBUS, OHIO, *December* 4, 1896.

HON. CHAS. A. WIETING, *Commissioner of Agriculture:*

My Dear Sir.—In answer to your communication of the 2d inst, I have to say:

First. I do believe in a State having a milk standard.

Second. My reasons for such opinion are that it requires a uniform character of milk sold to a community, and guarantees to every individual that what he purchases shall not be of less value than the standard established by statute. Without it there could be no security for the public against any kind of watering or adulteration, or the use of coal tar derivatives and other antiseptics.

Third. I do not believe that a milk law requiring milk vendors to guarantee the amount of fat in the milk sold by them would be of any consequence or security to the public against all frauds in the sale of milk. While such a law might regulate the sale of milk between producers and those buying in large quantities, as milk dealers or factorymen, it would be of no value at all where milk is retailed to all classes of individuals. It would be thoroughly impracticable for an individual buying a pint or quart of milk a day to enter into a contract with the vendor as to the quality of such milk, and would lead to endless disputes as to what such contracts were.

I believe thoroughly in the policy of standardizing not only milk, but butter, vinegar, cheese and all manufactured dairy products as well as other foods, establishing the minimum constituents of such articles, and allowing the individual to secure higher prices upon guarantees or qualities above standard. I am firmly convinced, after nearly five years' experience, that the efficiency of dairy and food laws will be very greatly enhanced, and the difficulties in their enforcement very largely obviated, when such standards can be established. It seems to be the tendency in the execution of dairy and food laws to concentrate legislation upon milk alone. This is evinced by the fact that reports from England the past two or three years show that the greater portion of their enforcement of law has been in the regulation of the sale of milk. Also, the Massachusetts reports of the State Board of Health show that in 1894, out of ninety prosecutions for violation of dairy and food laws, seventy-four were for the violation of the milk law. In 1895, out of ninety-two prosecutions, sixty-eight were for violation of the milk law.

In the State of Ohio we have not only a standard for milk, but also a standard for butter, which requires that all butter sold in this State shall contain at least 80 per cent. of pure butter fats. This has enabled us to prevent the manufacture and sale of butter emulsions by black pepsin and other kindred secret processes. The foregoing reason practically answers your fourth question.

Fifth. I do not believe that a law requiring individual guarantees of the amount of butter fats would be feasible, for reasons in addition to those given, that it would be impossible for an individual contract to be enforced by State officials, and would leave the enforcement of such law entirely between the vendor of milk and his customer, which, among the great body of consumers of milk, would be impossible. The poor man, buying five cents' worth of milk per day, could not spend ten, fifteen or twenty-five dollars to enforce the quality of his five cents' worth. Another reason for the impracticability of such a law would be the varying quality of different samples drawn from the same can or the difference in butter fats from different cans, which would render it impossible for larger buyers to protect themselves without having a thorough analysis of every package of milk received, and such a law could only be enforced by civil suit for damages between the individuals concerned. I believe that all laws of this character can only be made effective by making them misdemeanors, and subject to a penalty, and enforced by a public official.

Sixth. You ask what benefits have been derived in the State of Ohio from the adoption of the present milk standard. Our present standard is 12 per cent. solids with 3 per cent of butter fats. Previous to 1896 our standard was 12.5 per cent. of solids, with 3.5 of butter fats. This was changed upon the application of some of our dairymen who were furnishing milk for retail in our cities. I have serious doubt as to the propriety of such reduction, but made no opposition to the change of standard before our Legislature, as I believe that standards should be kept up and producers work to a higher quality of product, instead of reducing standards, which must work to the disadvantage of those producing the highest quality of goods.

Yours truly,

F. B. McNEAL,

Dairy and Food Commissioner.

Oregon.

1st. Do you believe in a State having a milk standard?

Answer. Yes, assuredly.

2d. Your reasons for same?

Answer. As a basis for action at law and legal protection. Punish and prevent adulteration. The rich could protect themselves without a standard, but without it the poor would be swindled continually and brazenly.

(Questions 3, 4 and 5 not answered.)

Q. 6. State what, if any, benefit has been derived in your State from the adoption of your present milk standard.

Answer. It has raised the standard of milk in the principal towns, and reduced the amount of adulteration, etc.

H. B. LUCE,
Commissioner.

Pennsylvania.

Q. 1. Do you believe in a State having a milk standard?

Answer. No.

Q. 2. Your reasons for same?

Answer. A standard low enough in fat and other solids to be fair to dairymen at all seasons of the year would be too low for an average commercial standard, and would have a tendency to induce dishonest dealers to adulterate normal milk that was high in fat and other solids to a lower standard within the legal limits.

Q. 3. If you do not believe in a milk standard, would you advocate a law requiring milk vendors to guarantee the amount of fat in the milk sold by them, leaving it to them to specify the amount?

Answer. Yes.

Q. 4. If you do not believe that such a law would be productive of as good results as a milk standard please give your reasons.

Answer. I believe that a contract between parties would give better results than a legal standard.

Q. 5. If you do believe that such a law would be as good if not better than a milk standard, please give your reasons for that belief.

Answer. Because a contract made and lived up to between parties interested is better and more satisfactory than conditions and requirements imposed by State or local laws.

Q. 6. State what if any benefit has been derived in your State from the adoption of your present milk standard.

Answer. Our State has no general standard; it only applies to cities of the second and third class.

Yours very truly,
LEVI WELLS,
Dairy and Food Commissioner.

Wisconsin.

MADISON, WIS., *December* 3, 1896.

Hon. C. A. WIETING, *Commissioner of Agriculture:*

Dear Sir.—I believe most emphatically that every State should have a legal milk standard, requiring that all milk offered for sale as whole milk shall contain not less than 3 per cent. butter fat, and that the State law should provide that the results of the Babcock test or a chemical analysis should be satisfactory evidence in court. By no other means can vendors of skimmed or adulterated milk be so certainly convicted. The benefits resulting in this State from laws of this character have come through successful prosecutions, which have improved the character of the milk supplies of cities and diminished the adulterations and skimming of milk by patrons of factories.

Yours truly,
H. C. ADAMS,
Commissioner.

From the above it would seem that the results in other States having a milk standard are not dissimilar to those in our own. The only two States in which the constituted authorities seem for a moment to consider the proposition of changing from the milk standard to the other method are Pennsylvania and Massachusetts. In Pennsylvania, however, the commissioner states that they have no general milk standard. That being true, he could hardly base his views upon experience. In Massachusetts, Mr. Whitaker takes the view that we should endeavor to arrange things so as to face towards that kind of a law, but when we come to read the address delivered by him before the Massachusetts State Board of Agriculture, at Dalton, Mass., on December 4, 1895, entitled "The Milk Supply of Massachusetts Cities," we find that he makes a strenuous argument to uphold the Massachuetts standard, which requires 13 per cent. of solids and 3½ per cent. of fat the major portion of the year. His argument is based upon the theory that the consuming public are entitled to a standard that shall call for a quality of milk as good as the average mixed milk drawn from a herd of healthful cows. This is higher ground than the State of New York has ever taken, or that has been advocated by any of my predecessors in office; the theory in this State being that no milk shall be sold upon the market that is poorer than the poorest grade of mixed milk drawn from a herd of healthful cows, fairly well kept and cared for. So, that while Mr. Whitaker simply in answering a few questions as concisely as he can, takes the ground that we should head toward the other method of selling milk; his attitude is better understood and set forth in the pamphlet above referred to, in which he strenuously argues for a standard higher even than ours.

There is yet another question connected with this standard that is being agitated to some extent, which has been brought several times to the notice of your honorable body by bills introduced, namely, the question of changing or raising the standard. There are those who believe our standard is too low as to fats. There are those who believe that our standard is too high as to solids. The result is that the last few Legislatures have been called upon to consider the question of the propriety of changing the standard to meet the different views above indicated. One of the stronger arguments, apparently made, is to the effect that the proportions of the solids are not as they should be. This is based upon the theory that the method of analysis that was used at the time when the experiment was made to determine the relative proportions of the solids and water did not find as much fats as the methods now used. I think this is generally conceded to be correct, so far as the fat is concerned, but it is not agreed, as I understand it, just what that difference is. The argument, however, is made that the Adams method, the one now used, finds more fat in the same total solids than the Wanklyn-Waller method, and that changing from the latter to the former, thereby extracting more fat, was virtually lowering the standard as to fats, and that the standard as to fats should therefore be raised to make up this difference. It is estimated that the difference is from two-tenths to seven-tenths of one per cent. If a change is to be made along this line I am of the opinion that it should not be raised any more than sufficient to cover the minimum difference found in the two methods. As to the question of whether our standard is too high, my predecessors in office caused many experiments to be made, and state, as the result, that they have never yet found samples of mixed milk of herds properly cared for that would fall below it. The standards of the different States in the Union are as follows:

MILK STANDARDS.

Georgia—

Skimmed milk.—Milk which contains less than 3½ per cent. of butter-fat and 8½ per cent. of other solids (other than butter-fat), shall be regarded as skimmed or partially skimmed milk. (Laws 1895, chap. 207.) Law took effect January 1, 1896.

Iowa—

There must be at least 3 pounds of butter-fat to each 100 pounds of milk. (Laws 1892, chap. 50, section 2.)

Maine—

88 per cent. water.
12 per cent. milk solids.
3 per cent. fat.
By gravimetric analysis. (Laws 1893, chap. 235.)

Massachusetts—

87 per cent. watery fluid.
13 per cent. of milk solids.
Nine and three-tenths per cent. of milk solids, exclusive of fat, or 3.7 per cent. of fat, except during the months of April, May, June, July and August, when milk shall not

contain less than 12 per cent. of milk solids or less than 9 per cent. of milk solids exclusive of fat, or less than 3 per cent. of fat. (Laws 1896, chap. 398.)

Skimmed milk.—Skimmed milk must contain at least 9.3 per cent. milk solids. (Laws 1885, chap. 332.)

Michigan—

87½ per cent. watery fluid.
12½ per cent. milk solids.
3 per cent. fat.

Specific gravity, at 60 degrees Fahrenheit, between 1.029 and 1.033. (Laws 1889, act 219.)

Minnesota—

87 per cent. water.
13 per cent. milk solids.
3½ per cent. fat.
(Laws 1889, chap. 147.)

New Hampshire—

87 per cent. watery fluid.
13 per cent. milk solids.
(Laws 1883, chap. 42.)

New Jersey—

88 per cent. water.
12 per cent. solids.
(Laws 1882, chap. 82.)

New York—

88 per cent. water or fluids.
12 per cent. milk solids.
3 per cent fat.
(Laws 1893, chap. 338, art. II, section 20.)

Condensed milk.—The proportion of milk solids in condensed milk must be the equivalent of 12 per centum of milk solids in crude milk, of which solids 25 per centum must be fat. (Laws 1894, chap. 143, amending Laws 1893, chap. 338, art. II, section 25.)

Ohio—

88 per cent. of watery fluid.

12 per cent. of solids, not less than one-fourth of which must be fat, except during the months of May and June, when there must be not less than 11½ per cent. of milk solids. (Laws 1896, p. 149.)

Condensed milk.—There must be the equivalent of 12 per centum of milk solids in crude milk, of such solids 25 per centum must be fat. (Laws 1886, p. 180.)

Oregon—

88 per cent. water.

12 per cent. volume of cream.

3 per cent. fat.

Specific gravity, after removal of cream, 1.033. (Laws 1893, p. 99.)

Pennsylvania—

87½ per centum watery fluid.

12½ per centum milk solids.

3 per centum fat.

Specific gravity, at 60 degrees Fahrenheit, between 1.029 and 1.033. (Laws 1885, No. 186.)

Skimmed milk.—Six per centum of cream by volume; 2½ per centum of fat by weight.

Specific gravity, at 60 degrees Fahrenheit, between 1.032 and 1.037. (Laws 1885, No. 186.)

South Carolina—

Skimmed milk.—Milk which contains less than 3 per centum of butter-fat and 8½ per centum of solids other than butter-fat shall be regarded as skimmed milk. (Laws 1896, No. 96, p. 215.)

Vermont—

12½ per cent. of total solids.

9¼ per cent. of total solids, not fat.

In the months of May and June there must be at least 12 per cent. of total solids. (Laws 1888, No. 108.)

In all creameries and cheese factories milk containing 4 per cent. of butter-fat shall be the standard used as a paying basis. (Laws 1894, No. 113.)

Wisconsin—

Milk containing 3 per cent. of fat is merchantable milk, provided it has not been diluted or cream abstracted, and is drawn from healthy cows. (Laws 1889, chap. 425.)

Canada (Province of Ontario).

All milk containing less than 13 per cent. of total solids, of which 3¾ per cent. must be chemically dry butter-fat, shall be deemed below the standard required in creameries for butter manufacture. (Vict. 51, chap. 31.)

It will be seen from reading the standards above set forth that there are none that are lower than the State of New York, that there are several that are higher. I am of the opinion that we should continue the policy of the State as to the milk standard, and do all we can to bring all the milk sold to the consuming public up to and above it. I am not, however, opposed to any legislation that may in any way aid in bettering the quality of this product; simply give it as my view that it would not be wise to repeal the law that we already have, so as to give a certain class of milk vendors an opportunity to go in the opposite direction. The thing desired, of course, is to have all the milk sold upon the market as pure as when drawn from the cow, and then to so breed as to produce good quality at all times.

OLEOMARGARINE.

The prohibitions in this State against oleomargarine and kindred products may be found in sections 26, 27, 28 and 29 of chapter 338 of the Laws of 1893.

The law as it now stands prohibits the manufacture and sale, or offering for sale, within the State of any oleaginous substance in imitation or semblance of butter, the product of the dairy. The question of the constitutionality of the law has been determined in cases in this State brought by my predecessors, and in the United States Supreme Court in a case brought in Massachusetts, in which the constitutionality was also affirmed. The question involved in the Massachusetts case was whether a law of the State forbidding the manufacture and sale of an oleaginous substance in imitation or semblance of butter was constitutional when the said substance was sold or offered for sale in original importers' packages in which it had been brought into the State. The decision of the court was that a State had the right under the police powers to prohibit a counterfeit, no matter what form it was in, no matter if it *was* in original importers' packages. That the regulations relative to aforesaid commerce was not intended to aid or abet a counterfeit. Up to the time of the decision of that case, several firms manufacturing oleomargarine outside of the State were sending that commodity into this State in the original package, colored so as to make it in imitation or semblance of butter. When that decision was handed down, my predecessor in office immediately commenced action against the firms that had been openly violating the statute within the State.

These cases were brought in accordance with the law through the office of the Attorney-General, who appointed as his representatives the firm of Mullen, Griffin & Walker, of Watertown, N. Y. I am advised that they had frequent consultations with the defendants. Their counsel finally found that it was impossible to reach a settlement, which they had a right to do by provisions of chapter 70 of the Laws of 1895, and they, therefore, brought an action for the recovery of fines incurred in violation of the law.

One of the first difficulties presenting itself in the prosecution of the State, was to ascertain the number of packages shipped into and offered for sale within this State, contrary to law, by the defendants. They secured from the Supreme Court of the State of New York an order requiring the express and railroad companies to permit them to examine their books to get the information desired.

The attorneys for the defendant procured an order in the same court for the plaintiff to show cause why the aforesaid order should not be vacated. Upon the argument of this question the court refused to vacate the order; whereupon, the attorneys for the defendant appealed from the decision of the judge.

Since assuming the duties of the office and giving my personal attention to this work, I find that these people are by no means giving up the idea of securing the markets of this State for their product, which they claim to be a useful "bi-product" in the interest of the poorer classes. Soon after they found they could not sell the goods openly in the original importers' package, they began, as I was fairly informed that they would, to devise ways and means whereby they could place the goods on the markets of this State. It is a fact to be borne in mind that the markets of the State of New York are desired by all dealers who have commodities of any kind to dispose of.

It was recently called to my attention that circulars were being sent to public institutions, boarding-houses, restaurants, hotels and boarding schools advertising these spurious products, representing that the goods were nine-tenths pure butter and one-tenth added fats; the claim being made that the product was, therefore, better than butter, as the added fat would keep the product from spoiling. They also advertised that, if it was desired not to have it known that the goods were being used in the institutions, they would send them "under cover." A little work on the part of our agents soon brought out the fact that "under cover" meant, in the majority of cases, that the oleomargarine was put in a tub duly stamped with the government stamp, and that tub placed in another in such a way as to lead the casual observer to think that it was a tub of ordinary butter. We have been busy during the last two months ferreting out the peculiar methods of this last-named scheme to foist these goods upon our market in defiance of our State law.

I am not prepared at this time to state just to what extent it is being done, but the amount sold within a short time before we became aware of the method of procedure was not inconsiderable.

Following are specimens of communications, that have come to our notice, sent out by different firms:

"Gentlemen.— May we ask that the scientific article herewith be given your courteous and unprejudiced attention?

"OLEOMARGARINE AND WASTING DISEASES.

(Scientific American Supplement, July 18, 1896.)

"The problem of nourishment in wasting diseases is perennial. In most instances the balance between waste and repair is greatly to the credit account of the former, despite all the resources of the medical art.

"With the first introduction of cod liver oil, it was believed that the problem of nourishment in wasting diseases was solved. But there is nothing magical about this oil. Save as an easily digested fat, it is valueless.

"In every-day life butter is very essential. Its free use by sufferers from wasting diseases is to be encouraged to the utmost in so far as it can be borne. All this seems very simple, but unfortunately an excess of butter diet, even in a healthy organism, is apt to give rise to butyric dyspepsia, and butyric fermentation is set up largely through the presence of a ferment — a residuum left by the buttermilk.

"Considering the foregoing, it seems strange that oleomargarine has not been thought of as a palatable and suitable article of diet for those suffering from wasting diseases. It is free from all objections, despite the idle and malicious tales industriously spread by parties interested in securing high prices for inferior and unwholesome products. Were the truth fully realized by all classes, bad butter would find no market, but, unfortunately, the majority of the people have no comprehensive idea as to what oleomargarine practically is.

"The resulting product, as a matter of fact, is a better and purer butter than nine-tenths of the dairy product that is marketed, and one that is far more easily preserved.

"There are a large number also who imagine oleomargarine is made from any old scraps of grease, regardless of age or cleanliness, which is quite the reverse of the fact; indeed, a good 'Oleo.' can only be had by employing the very best and freshest of fat. This 'artificial butter' is as purely wholesome (and, perhaps, even better as food) as the best dairy or creamery product.

"Recently Jollies and Winkler, who are the official chemists for the Austrian government, after a very thorough investigation, announced through the columns of the 'Zeitschrift fur Hygiene,' that the only germs ever present in 'Oleo.' are the varieties common to air and water. Although carefully sought for, tubercular bacilli and other obnoxious bacilli were conspicuously absent. They also found that the dairy product is especially liable to be contaminated, inasmuch as the best process of manufacture failed to eliminate all the lactic acid ferment, and the action of which even salt cannot neutralize, save for a brief period.

"Products which are of rank character do not emanate from reputable factories (which are invariably connected with beef packing-houses), but from petty manufacturers who accept fats of all kinds that are rejected by the regular oleomargarine makers. It is surprising the amount of fat that a consumptive finds it possible to consume when employing 'Oleo' instead of butter.

"Our churns are very busy, and every one of our brands as below, wholesome, uniform and fine flavored.

(F. O. B., Chicago.)

Eastlake	9½c.
Buttercup	10½c.
Empire	11½c.
Ill. Creamery	13½c.
Fancy Creamery	15c.

"The usual difference for rolls, prints or small tubs.

"If you do not board many, or if further quotations would be an annoyance or unnecessary, will you kindly advise at once.

"ARMOUR & COMPANY.
Chicago."

ARMOUR & COMPANY,
CHICAGO, *November* 23, 1896.

Dear Sir.— The sale of our butterine among the different institutions in all parts of the country has compelled us to make a special department to cater to the schools, colleges, hospitals, etc., and we are particularly anxious that your institution should be among our long list of buyers.

Our butterine is a wonderful success wherever it is used, and has been proven by the most eminent chemists and physicians to be pure and wholesome. Another advantage is its keeping quality, as it never becomes rancid as butter does.

Kindly note prices below:

(All F. O. B., Chicago.)

Eastlake	9½c.
Buttercup	10½c.
Empire	11½c.
Ill. Creamery	13½c.
Fancy Creamery	15c.

10-lb. and 20-lb. tubs or 2-lb. rolls, ½c. over; 1-lb. rolls or prints, 1c. over.

If there is any particular information you desire about the product, we shall be very glad to hear from you.

Yours truly,
ARMOUR & COMPANY.

Note.— If your institution, for any reason, will not desire to receive further quotations from us upon butterine, may we ask a line to that effect, so that we may save you any annoyance?

CHICAGO, *December* 24, 1896.

Dear Sir.— We offer you, to-day, at the following prices, subject to market changes:

60-lb. ash tubs, parchment lined	17½c.
30-lb. ash tubs, parchment lined	18c.
10, 20, 30 and 50-lb. spruce, ordered in nests	18½c.
1-lb. prints, packed in white-wood boxes (54 lbs. each, wrapped in parchment paper)	18½c.

We can furnish you any style package desired. Hoping to be favored with an order, we remain,

Yours truly,
ILLINOIS CREAMERY CO.

P. S.— All goods are shipped direct from factory. Address all correspondence to Chicago office.

CHICAGO, *February* 10, 1897.

Dear Sir.— Our winter's business has surpassed all previous records, and the reason is readily recognized in the uniformity and excellence of our qualities.

The improved "Illinois Creamery" brand, as an economical piece of goods, is specially recommended.

Please note change in prices:

(All F. O. B., Chicago.)

Eastlake	10c.
Buttercup	11c.
Empire	12c.
Ill. Creamery	13½c.
Fancy Creamery	15c.
Ex. Fancy Creamery	16c.

All tubs and 2-lb. rolls, ½c. over; 1-lb. rolls (or prints), 1c. over.

ARMOUR & COMPANY.

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Please deliver to Adams Express Company (or other express) in Jersey City, addressed to me, ... tubs, ... pounds each.

And oblige,

Name..............................
Street.............................
City...........................

An examination of the above communications, which are being sent to nearly, if not all, the public institutions, restaurants, hotels, boarding-houses and boarding schools in the State, it seems to me, should carry conviction that these people are endeavoring to sell these goods in defiance of our law, and that they are endeavoring to do it in such a way that we will have the most difficulty in ascertaining the facts.

I am of the opinion that this Department should have the right to select and employ a few special detectives, whose employment should not be known to any one outside of the head of the Department, for the purpose of ferreting out the movements on the part of these people.

It is a fact that the men who are now employed at our regular work are very soon known to the agents of the manufacturers of these goods, so that so far as doing any secret or detective work they are practically useless from that very fact alone.

The selection of a man from the eligible list of the Civil Service Commission, it seems to me, can scarcely determine his fitness to cope with the cunning and sagacity of the vendors of these goods. I respectfully suggest now that your honorable body take such action as will place at my disposal a few men in this capacity.

CARE AND FEED OF COWS.

Section 21. **Care and feed of cows.**— No person shall keep cows, for the production of milk for market or for sale or exchange, or for manufacturing the milk or cream from the same into any article of food, in a crowded or unhealthy condition, or feed any such cows on distillery waste or on any substance in the state of putrefaction or fermentation, or upon any food that is unhealthy or that produces impure, unhealthy, diseased or unwholesome milk. But this section shall not be construed to prohibit the feeding of ensilage.

There are a large number of cows within the State of New York that are kept in stables nearly the entire year, many of which are within the limits of our cities, for the production of milk for sale for consumption. There can be no doubt but that if the sanitary conditions in connection with these stables are not what they should be that it will be a prolific source of danger. I have, for that reason, given instructions to the assistant commissioners to have the agents in their respective divisions examine such stables, and report their views thereon of them, in cases where there is doubt as to the stables being kept in accordance with the law I have given instructions that a veterinarian or sanitary engineer, if possible, be employed to examine and report on same. We have had no prosecutions since I have been in office for violations of this section, although we have found a few stables where it was evident that the condition there prevalent would soon produce a condition of things that would be in violation of the law. In such cases, the parties are having their attention called to it, and are making the necessary corrections.

I am of the opinion that I shall give more attention to this part of the work than it has received heretofore, from the fact that I believe there is a greater source of danger from neglect in the stables than elsewhere. Scientific men, to-day, are taking the ground that much of the infectious and contagious disease among domestic animals is caused by poor ventilation and bad sanitary surroundings. If this view is correct, and I am inclined to think it is, it warrants me in devoting more time to this portion of the work. It will call for something of an addition to the force, in the way of men properly educated to determine the necessary sanitary conditions, but, in view of the results sought to be produced, the expense is a trivial matter.

RULES AND SUGGESTIONS CONCERNING THE CARE OF MILK.

A pamphlet has been issued by this Department, entitled "Rules and Suggestions Concerning the Care of Milk, and the Making of First-class Butter and Cheese." It was issued by Josiah K. Brown, First Dairy Commissioner. An extract from it concerning the care and handling of milk, which I deem very good, reads as follows:

"Everything about the stable must be clean and neat, and the place where the milk can is kept must have a good, free circulation of pure air, away from the odors of the barn-yard and stable. Some device should be used by which the milk can be thoroughly exposed to the air as soon as drawn from the cow, so as to rid it of the animal odors and gases while it is warm, as they become condensed by cooling of the milk and cannot be removed by subsequent aeration. The old time theory, that the heat in the milk is what causes all the trouble, is, I am satisfied, entirely wrong, as the heat in the milk, when drawn from the cow, is no different from any other heat, and has nothing to do with the animal odors. This is easily proven by cooling a can of milk quickly, when you will find, no matter how cold it is, that the animal flavor is still there. On the other hand, take a can of warm milk which is thoroughly aerated, you will find the odor gone while the milk is yet warm. To secure the best results in cheese making, the milk should not be cooled below the temperature of the air, during the summer months, in order to secure the proper ripeness so that the acid development will keep ahead of any possible taints. The night's and morning's milk should never be mixed before arriving at the factory, as the night's milk, standing until morning, becomes loaded with the bacteria that are constantly in the air, especially in warm weather, and when you add the warm milk it raises the temperature of the whole mass, and they begin their work at once, so that by the time the milk reaches the factory it will, quite likely, be in bad condition. The idea, that by hauling milk to the factory twice a day, without aerating it, removes all responsibility from the patron, is an error. It will retain all the gas and odor, and, being covered tightly, they will become condensed in the milk where it is drawn any distance, and it will be injured before it comes under the maker's control. Too much care cannot be taken in the cleansing and scalding of everything connected with the dairy cans, pails, strainer, etc. Remember that it must be scalding water, warm water will not accomplish the purpose. Never allow the cows to be chased by the dog. Anything that produces a feverish condition of the cow will result in injury to the milk. The farmer has so many cares beside that of giving proper attention to his milk that it is often sent to the factory in bad condition without his knowledge. He should, however, give this matter his personal attention, because the income of others, as well as his own, will be reduced by allowing his milk to go to the factory in bad condition. The food the cow eats and the water she drinks has a direct influence on the quality of her milk. The water must be pure; it is important that she be kept away from stagnant pools. She should also have plenty of salt; much discussion has been had and many experiments have been made with a view of ascertaining the amount of salt milk cows should have. It has come to be well established that the best method of furnishing salt to cows is in some way to place it within their reach so they can help themselves every day."

CHEESE.

That part of the Agricultural Law relating to cheese is found in sections 4, 27, 30, 33, 34 and 35, which read as follows:

Section 4. **Expert butter and cheese makers.**—The commissioner of agriculture may appoint and employ not more than five expert butter and cheese makers, who shall, under his direction, examine and inspect butter and cheese factories and attend at agricultural fairs, societies, and meetings designated by the commissioner, to impart thereat information as to the best and most approved method of making butter and cheese and improving the quality thereof.

Section 27. **Manufacture of (*) mixing of animal fats with milk, cream or butter prohibited.**—No person shall manufacture, mix or compound with or add to natural milk, cream or butter any animal fats or animal or vegetable oils, nor make or manufacture any oleaginous substance not produced from milk or cream, with intent to sell the same as butter and cheese made from unadulterated milk or cream or have the same in his possession with such intent; nor shall any person solicit or take orders for the same or offer the same for sale, nor shall any such article or substance or compound so made or produced, be sold as and for butter or cheese, the product of the dairy. No person shall coat, powder or color with annatto or any coloring matter whatever, butterine or oleomargarine or any compound of the same or any product or manufacture made in whole or in part from animal fats or animal or vegetable oils not produced from unadulterated milk or cream by means of which such product, manufacture or compound shall resemble butter or cheese, the product of the dairy; nor shall he have the same in his possession with intent to sell the same nor shall he sell or offer to sell the same.

Section 30. **Manufacture and sale of imitation cheese prohibited.**—No person shall manufacture, deal in, sell, offer or expose for sale or exchange any article or substance, in the semblance of or in imitation of cheese made exclusively of unadulterated milk or cream, or both, into which any animal, intestinal or offal fats or oils, or melted butter, or butter in any condition or state or modification of the same, or oleaginous substance of any kind not produced from unadulterated milk or cream, shall be introduced.

Section 33. **Manufacturers' brand of cheese.**—Every manufacturer of full-milk cheese may put a brand upon each cheese indicating "full-milk cheese," and the date of the month and year when made, and no person shall use such a brand upon any cheese made from milk from which any of the cream has been taken. The commissioner of agriculture shall procure and issue to the cheese manufacturers of the state on proper application therefor, and under such regulations as to the custody and use thereof as he may prescribe, a uniform stencil brand, bearing a suitable device or motto, and the words "New York State full-cream cheese." Every such brand shall be used upon the outside of the cheese and upon the package containing the same, and shall bear a different number for each separate factory. The commissioner shall keep a book, in which shall be registered the name, location and number of each factory using the brand, and the name or names of the persons at each manufactory authorized to use the same. No such brand shall be used upon any other than full-cream cheese or packages containing the same.

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* So in the original.

Section 34. **Use of false brand prohibited.**—No person shall offer, sell or expose for sale, in any package, butter or cheese which is falsely branded or labeled.

Section 35. **County trade marks.**—At a regular or special meeting of a county dairymen's association in any county of the state there may be adopted a county trade mark by a majority of the members present and voting, to be used as a trade mark by any person manufacturing pure unadulterated butter or full-cream cheese in such county. The secretary of the association shall forthwith send to the commissioner of agriculture a copy of such trade mark, which copy he shall place on file in his office, noting thereupon the day and hour he received the same. But one county trade mark for butter and for cheese shall be placed on file for the same county. No association shall adopt any trade mark of any county already on file, or use that of any other county in the formation of a trade mark.

Section 4, as above set forth, provides that the Commissioner of Agriculture may appoint and employ not more than five butter and cheese makers for the purpose therein designated. From my experience in the Department, I am of the opinion that the number of persons employed under the provisions of that section might, with propriety, be increased. I find that in general the cheese men of the State are satisfied with the work that has been performed under this section, and that it has been such a benefit that it should not only be continued, but be more extensive.

When these men commenced their work they found that there was a great difference in the quality of cheese made in the different manufactories in the State. Their aim has been to reach that class of makers who, for any reason, whether from bad drainage or bad conditions in the milk, or otherwise, were not making a good product, and to give them such aid as would enable them to make a good, uniform, first-grade cheese, thus bringing them to the level of other factories that were operated under more favorable circumstances. The reports that I get as to the results of these efforts seem to indicate that very much has been done along these lines, and that the factories are coming much nearer producing what might be termed a first-class, uniform grade cheese than ever before in the history of cheese manufacturing in this state.

The men now employed have been constantly doing this work for the past seven or eight years, and have become very proficient, not only from their knowledge of cheese making generally, but from the knowledge acquired of the peculiarities found in the different localities of the State which have a bearing upon the milk product, and consequently upon the cheese product. Their efforts have been mainly along the lines of improving as much as possible the milk product, with the idea that one of the first requisites for a factory is that they should have a good quality of milk for the manufacture of cheese. To this end the milk producers should have healthy cows, and that their surroundings should be healthful, their food properly prepared and given, and that the stables should be kept in a perfectly clean and wholesome condition; that the milk should be properly treated as soon as drawn from the cows by aeration, and then so handled as to leave the least possible chance for its being affected before being delivered at the factory. After this is done their efforts are directed to assisting the cheese-maker in any of the difficulties he may meet in manufacturing the milk so produced and brought into a first-grade, uniform cheese.

The State also prohibits the manufacture of what is known as imitation cheese or filled cheese. I am informed by the assistant commissioners of the respective divisions that no cheese of this kind is now manufactured. There has been no case made in the Department during the last year for violation of this part of the statute. The manufacture of cheese in this State seems to be of two kinds, so far as the quality of milk bought in them shows, namely, whole milk and skim-milk cheese.

Section 33, above quoted, provides that this Department shall furnish, upon proper application therefor, a full-cream cheese brand, bearing a suitable motto or device, to each manufactory for branding full-cream cheese, but does not authorize using brands for skim cheese. I mention this fact because we have had several applications asking for brands for that purpose. During the past year there have been issued, upon application therefor, brands to the following factories in this State:

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR ENDING SEPTEMBER 30, 1896, BY COUNTIES.

ALLEGANY.

NAME OF FACTORY.	Applicant.	Post-office.
Allen	Perry & Rogue	Belfast.
Andover	W. F. Snyder	Andover.
Babbitt	J. A. Hogg	Hume.
Barr	J. P. Barr	Friendship.
Beach Hill	R. C. Alsworth	Shongo.
Belfast	A. E. Perry	Belfast.
Bishopville	A. L. McIntosh	Bishopville.
Brookside	M. E. Gordon	Rushford.
Caneadea	Young & Young	Fillmore.
Collins	Geo. W Woodworth	Alfred.
County Line	Young & Young	Fillmore.
Dryden Ridge	Jeremiah Rogers	Andover.
East Valley	T. G. Brown	Andover.
Empire	H. E. Osgood	State Road.
Farmers' Home	E. P. Fenner	Alfred Station.
Fillmore	Young & Young	Fillmore.
Five Corners	E. P. Fenner	Alfred Station.
Ford Brook	T. J. Carmody & Co	Cuba.
Friendship	Latta Hobart	Friendship.
Genesee Valley	B. D. Willard	Belvidere.
Gilt Edge	J. C Holden	Belmont.
Griffiths	Young & Young	Fillmore.

Juinn	Wm. Conley	Andover.
Hall's	A. B. Hall	Withey.
Hamilton Hill	Alfred J. Evans	Cuba.
Hardy's	J. G. James	Rushford
Houghton	P. B. Loftis	Houghton.
Hume	Young & Young	Fillmore.
Hunt's	Young & Young	Fillmore.
Independence	Chas. F. Potter	Independence.
Jasper	T. J. Carmody & Co.	Cuba.
Kellogg	F. W. Hogg	Hew Hudson.
Keystone	J. E. Lamont	Aristotle.
Knight's Creek	John L. Coyle	Scio.
Lafferty	James Loftis	Cuba.
Little Genesee	C. A. Thompson	Little Genesee.
McGrawville	F. W. Hogg	New Hudson.
McHenry Valley	A. C. Baker	Alfred.
Marshall	A. E. Perry	Belfast.
Mill's Mills	A. L. Boller	Hume.
Mount Monroe	J. G. James	Rushford.
Murray	Bernard Murray	Andover.
Nunda	Young & Young	Fillmore.
Oranel	A. E. Perry	Belfast.
Petrolia	Willard A. Dodge	Petrolia.
Phillips' Creek	Ockerman & Fuller	Phillips' Creek.
Piatt	Fred R. Piatt	Short Tract.
Pleasant Valley	E. P. Fenner	Alfred Station.
Podonque	A. L. Olthof	Rushford.
Richburgh	F. J. Brown	Richburgh.
Rice	J. P. Barr	Friendship.
Rockville	A. E. Perry	Belfast.
Rush Creek	Frank E. McMurtry	Fillmore.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC.— ALLEGANY — (*Continued*).

NAME OF FACTORY.	Applicant.	Post-office.
Scio No. 1	Gilbert Bliven	Scio.
Shongo	Young & Young	Allegany.
Shongo	R. C. Alsworth	Shongo.
Short Tract	Young & Young	Fillmore.
Snyder's Clover Dale	A. M. Austin	Independence.
South Andover	P. B. Coyle	Andover.
South Bolivar	B. F Hayward	South Bolivar.
South Cuba	G. S Marsh	Cuba.
Spring Brook	M. J. Sands	Cuba.
Spring Mills	C. H. Austin	Spring Mills.
Slater Creek	Chas. Swain	Canaseraga.
Star	J. A. Hogg	Hume.
Stone Spring	John H. Boller	Hume.
Transit	A. E. Perry	Belfast.
Trapping Brook	S. J. Van Skoik	Wellsville
Turnpike	John C. Vincent	Almond.
Union	Young & Young	Fillmore
Vandemark No. 1	G. E. Dodge	Scio.
Vandemark No. 2	G. E. Dodge	Scio.
West Almond	Alfred Fletcher	West Almond.
West Branch	Kendall & James	Rushford.
West Hill	James M Murtry	Allegany.
White Creek	W. E. Wilkinson	Belfast.
Wildman	J. H. Wood	Whitesville.
Wiscoy	Young & Young	Fillmore

Withey	A. E. Hall	Withey.
Woodruff	Chas. Husbickel	East Granger.

BROOME.

Nanticoke	G. H. Littlewood	Lisle.
Port Crane	W. A. Chrestien	Port Crane.

CATTARAUGUS.

Abbott No. 2	O. J. Folts	Ischua.
Abbott's Union	Thos. L. McVey	Abbotts.
Ashford	J. R. Zetwick	Ashford.
Axville	O. S. Wright	E. Randolph.
Bellows	A. B. Neff	Ashford.
Bullock	Geo. E. Hogg	Franklinville.
Eagle	J. Gampp	East Otto.
East Otto	J. Gampp	East Otto.
East Otto No. 5	J. Dorsey	Otto.
California Hill	F. Hufstader	Little Valley.
Clark Bros. & Co.	Clark Bros & Co	Otto.
Clear Creek No. 4	F. A. Brigham	Otto.
Cottage	John Olivey	Cottage.
Eddyville	David O. Ditcher	Eddyville.
Elgin	S. M. Fisher	Elgin.
Elm Creek	Dana A. Cowen	E. Randolph.
Elkdale	E. D. Morey	Elkdale.
Elks	D. H. Thompson	Randolph.
Elton	J B. Lewis	Sandusky.
Empire	R. McCubbin	Perrysburgh.
Fairview	David L Hooper	Fairview.
Farmersville Nos. 1 and 2	C. E. Wright	Laidlaw.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC. — CATTARAUGUS — (*Continued*).

NAME OF FACTORY.	Applicant.	Post-office.
Farmersville Station	W. J. Pettit	Farmersville Station.
Fish Hill	Anson Fuss	Little Valley.
Five Point	F. Hufstader	Little Valley.
Franklinville Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13	E. H. Farrington	Franklinville.
Franklinville Star	T. Williams	Franklinville.
Freedom	J. B. Lewis	Sandusky.
Glen Brook No. 1	H. Jenkel	West Valley.
Glen Brook No. 2	John F. Jenkel	Ellicottsville.
Glen Brook No. 3	H. Jenkel	West Valley.
Glen Brook No. 4	H. Jenkel	West Valley.
Grand Central	A. S. Barrett	Ellicottsville.
Great Valley	F. Hufstader & Co	Little Valley.
Hencoop	A. S. Bassett	Ellicottsville.
Highland	Wilbur A. Hopkins	Conewango.
Home	Jas. N. Brown	Cuba.
Humphrey, L. B	L. B. Humphrey	Portville.
Irish Hill	A B. Neff	Ashford.
Java Lake	E. L. Jones	Delevan
Jericho	J. B. Lewis	Sandusky.
Lamb	O. B. Lamb	Machias.
Little Valley	F. Hufstader & Co	Little Valley.
Lower Haskell	Jas. J. Kirby	Olean.
Mansfield Lime Brook No. 3	P. F. Jark	Otto
Maynard	J. Gampp	East Otto.

Mosher Lime Brook No. 3	P. F. Jark	Otto.
Nine-Mile Union	M. Zister	Allegany.
North Leon Nos. 1 and 2	A. D. Ackler	Leon.
North Napoli	F. Hufstader & Co	Little Valley.
North Valley	Anson Fuss	Little Valley.
Otto Crescent	E. T. Ryder	Otto.
Plato Union	P. F. Jark	Plato.
Randolph No. 1	Zenas Carpenter	East Randolph.
Randolph No. 2	E. V. Carpenter	Randolph.
Randolph No. 3	Sam'l Carpenter	Randolph.
Randolph No. 4	W. Carpenter & Sons	East Randolph.
Randolph No. 5	Zenas Carpenter	East Randolph.
Red House	Calvin Marsh	Red House.
Riceville	A. B. Neff	Ashford.
Rock Spring No. 1	J. R. Holden	Franklinville.
Ross Nos. 1 and 2	Asa Ross & Co	Gowanda.
Sandusky Nos. 1, 6, 7, 9, 11 and 12	J. B. Lewis	Sandusky.
Schmertze	A. B. Neff	Ashford.
Siloam	J. B. Lewis	Sandusky.
Scott Lime Brook No. 2	P. F. Jark	Otto.
South Napoli	F. Hufstader & Co	Little Valley.
Spring Brook Nos. 1, 2 and 4	C. J. Busekist	New Albion.
Spring Brook No. 3	C A. Facklam	Cattaraugus.
Spring Valley	W. T. Peaslee & Son	East Randolph.
Star Nos. 1, 2 and 3	T. J. Hubbard	Wethersfield.
Stebbins Lime Brook No. 4	P. F. Jark	Otto.
Stone	S. M. Fisher	Elgin.
Ticknor	David McCubbin	Perrysburgh.
Union	C. D. Bennett	Allegany.
Union	J. Gampp	East Otto.
Van Brunt	A. Van Brunt	Carroll.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC.— CATTARAUGUS — (*Continued*).

NAME OF FACTORY.	Applicant.	Post-office.
Vedder	J. M. Zeilman	Plato.
Waverly Lime Brook No. 1	P. F. Jark	Otto.
West Branch Union	L. W. Howden	Allegany.
West Farmersville	S. A. Peavy	Laidlaw.
Wilson No. 2	F. R. Chapman	Ischua.
	CAYUGA.	
Como	Chas. F. Davenport	Como.
Slone	H. E. Slone	Kelloggsville.
Victory	W. W. Fraser	Victory.
	CHAUTAUQUA.	
Alden	A. D. Alden	Sinclairville.
Arkwright	F. W. Horton	Arkwright.
Arkwright Union	Frank O. Briggs	Fredonia.
Blockville	G. H. Burlage	Blockville.
Charlotte Union	E. F. Lake	Charlotte Centre.
Clymer	E. G. Parkhurst	Clymer.
Cold Spring	M. T. Wakefield	Mayville.
Dewittville	W. H. Hambleton	Dewittville.
Ellery	Cowden Bros	Ellery.
Ellington Nos. 1, 2, 3, 4, 5, 6, 7 and 8	E. F. Rowley	Kennedy.
Gerry	Chas. E. Denison	Sinclairville.
Grant	Geo. H. Smith	Brokenstraw.

Hamlet	Deloss Tanner	Hamlet.
Limwood No. 5	C. D. Leonard	Cherry Creek.
Mayville	M. T. Wakefield	Mayville.
Nashville	C. Montgomery	Nashville.
Red Bird	New York Milk Product Co	New York city.
Stockton	H. B. Van Buren	Stockton.
Tompkins	A. J. Tompkins	Sinclairville.
Wait	O. W. Wait	Cassadaga.
West Ellery	F. W. Stowell	Bemus Point.

CHENANGO.

Arctic	York, Brown & Co	Guilford.
Benedict	John P. Davis	Oxford.
Casler, M. D	M. D. Casler	Stanbro.
Cowles	Geo. D. Cowles	Greene.
Davis	Sage, Brown & Co	New Berlin.
Davis, Geo. H	Chas. H. Davis	Pharsalia.
Deer Lake	Will C. Moulton	Norwich.
East Pharsalia	C. H. Southard	E. McDonough.
Empire	B. E. Holcomb	Oxford.
Evergale	H. R. Dart	Sherburne.
Great Brook	Sage, Brown & Co	New Berlin.
Hopkins	Hopkins & Burke	Oxford.
Hopkins	J. A. Hopkins	Oxford.
Johnson	John A. White	Greene.
Johnson, E. M	R. Johnson	Afton.
Latham's	Sage, Brown & Co	New Berlin.
Leach, S. N	S. N. Leach	Chenango Lake.
Midland	C. H. Stewart	Kirk.
Midland	Hopkins & Burke	Oxford.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC.— CHENANGO — (*Continued*).

NAME OF FACTORY.	Applicant.	Postoffice.
North Pitcher	Jas. F. Bulger	North Pitcher.
Plymouth	Silas E. Kinney	Plymouth.
Smith	Levern Smith	Guilford.
Smyrna Hill	David Campbell	Smyrna.
South Plymouth	C. M. Dickerson	South Plymouth.
South Otselic	H. C. Dutton	South Otselic.
Star	Geo. W. McNutt	Norwich.
West Bainbridge	C. F. Bently	West Bainbridge.
	CORTLAND.	
Bear Spring	A. C. Clark	Solon.
Blodgett's Mills Union	W. E. Russell	Blodgett's Mills.
Cold Brook Creamery	John S. Gillett	East Scott.
Cortland County Central	Geo. S. Davis	McGrawville.
Hollenbeck	Seymour Hollenbeck	Texas Valley.
Homer West Hill	E. R. Hall	Homer.
House	E. M. Matthews	Marathon.
Kenney Settlement	Irving D. Moore	Kenney Settlement.
Kasler	C. Kesler	Marathon.
Maple Grove	Geo. E. Dodd	McGrawville.
Messengerville Dairy Co	Oscar Voigt	Messengerville.
North Solon	C. W. Ellis	McGrawville.
Sears	Frank H. Sears	Cortland.
Tarbox	W. McAdam	Truxton.

Taylor	Isaiah Baldwin	Taylor.
Tillinghast	Wilber Holmes	Cincinnatus.
Truxton	W. McAdam	Truxton.
Union Valley	Irving D. Hughes	Union Valley.

DELAWARE.

Riverside	A. G. Sergent	Sidney.

ERIE.

Bennington Centre	Richardson, Beebe & Co	East Aurora.
Bigelow	J. W. Clair	Springville.
Block	J. W. Clair	Springville.
Chafee	Franklinville Cheese Co	Chafee.
Clear Creek	J. C. Brigham	Collins Centre.
Clear Creek No. 2	J. C. Brigham	Collins Centre.
Clear Creek No. 3	J. C. Brigham	Collins Centre.
Golden Centre	Richardson, Beebe & Co	East Aurora.
Cowlesville	Richardson, Beebe & Co	East Aurora.
Currier's	Franklinville Cheese Co	Chafee.
Dye	J. W. Clair	Springville.
Elmont	Richardson, Beebe & Co	East Aurora.
East Aurora	Richardson, Beebe & Co	East Aurora.
East Holland	Richardson, Beebe & Co	East Aurora.
Franktown	J. W. Clair	Springville.
Frye	J. W. Clair	Springville.
Henshaw	J. W. Clair	Springville.
Holland	Richardson, Beebe & Co	East Aurora.
Hunter Creek	Richardson, Beebe & Co	East Aurora.
Java Centre	Richardson, Beebe & Co	East Aurora.
Java Village	Richardson, Beebe & Co	East Aurora.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC.—ERIE—(*Continued*).

NAME OF FACTORY.	Applicant.	Post-office.
Losier	Richardson, Beebe & Co	East Aurora.
Mattison	Franklinville Cheese Co	Chafee.
Newton	Franklinville Cheese Co	Chafee.
North Colden	Richardson, Beebe & Co	East Aurora.
North Sheldon	Richardson, Beebe & Co	East Aurora.
Porterville	Richardson, Beebe & Co	East Aurora.
Protection	Richardson, Beebe & Co	East Aurora.
Punkshire	Franklinville Cheese Co	Chafee.
Queen of the Valley	Richardson, Beebe & Co	East Aurora.
Rider	J. W. Clair	Springville.
Sheldon	Richardson, Beebe & Co	East Aurora.
South Colden	Richardson, Beebe & Co	East Aurora.
South Sheldon	Richardson, Beebe & Co	East Aurora.
Springville	J. W. Clair	Springville.
Strykersville	Richardson, Beebe & Co	East Aurora.
Wales	Richardson, Beebe & Co	East Aurora.
Wales Centre	Richardson, Beebe & Co	East Aurora.
West Machias	J. W. Clair	Springville.
West Valley	J. W. Clair	Springville.
Willink	Richardson, Beebe & Co	East Aurora.
Woodside	T. E. Moore	Morton Corners.
	FRANKLIN.	
Hogansburgh	H. E. Bowker	Hogansburgh.

FULTON.

Cross Road	Elmer J. Dorn	Johnstown.
Garoga	Hiram P Rouse	Garoga.
Meadow Brook	Theron Robinson	Oppenheim.
Slater Hill	John F. Empire, Jr.	Ephratah.
Walts	B. Walts	Ephratah.
Willow Spring	Jas. O. Bennett	Oppenheim.

GENESEE.

Alexander	W. E. Moulton	Alexander.
East Pembroke	East Pembroke Gilt Edge Company	E. Pembroke.

HERKIMER.

Barse Hill	J. E. Barse	Little Falls.
Bastow Hill	J. W. Ford	Fairfield.
B. H	Lucius Belinger	Edicks.
Brown Bros.	Brown Bros	Newport.
Burt Grove	D. Burt	Little Falls.
Cedar Lake	J. L. Carver	Cedar Lake.
Cedarville	D. W. Morris	Cedarville.
Cold Brook	E. D. Conner	Cold Creek.
Cold Spring	E. E. Jones	Litchfield.
Cook, Ives & Co.	Andrew Lambert	Salisbury.
Cramer, E.	E. Cramer.	Salisbury Corners.
Cullen	C. Garline	Cullen.
Daisy	J. P. Nellis	Ohio.
Davis, Geo. H.	Geo. H. Davis	Frankfort.
East Schuyler	S. P. Lints, Jr	E. Schuyler.
East Winfield	M. M Crandall	Winfield.
Eatonville	F. H. Dapson	Little Falls.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC.—HERKIMER—(*Continued*).

NAME OF FACTORY.	Applicant.	Post-office.
Eggleston Nos 1 and 2	O. E. Eggleston	W. Winfield.
Fairfield Centennial	Alex. McKerron	Middleville.
Fairfield Centennial Branch	G. Veitch	Middleville.
Fairfield Dairy Association	T. Atkins	Little Falls.
Fort Herkimer Union	Ernest R. Steele	Herkimer.
Fort Willett	Jacob Zoller	Little Falls.
Frankfort	M. K. Ellsworth	Frankfort.
Fulmer Creek	O. B. Christman	Mohawk.
Galusha, S. J	S. J Galusha	Starkville.
Gilt Edge	E. C. Hall	Frankfort.
Gray	A. E. Snyder	Gray.
Hassenclever	W. J Fitzgerald	Newport.
Herkimer	Will Kruger	Herkimer.
Hickory Grove	Chas. A. Shumway	Danube.
Hinckley, G	E. H. Hughes	Gravesville.
Kast Bridge	Alvin Countryman	Herkimer
King, A. S.	A. S. King	Norwich Corners.
Lyon, J H	J H Lyon	Cold Brook.
McArthur, D.	D. McArthur	Grant.
Manheim Centre	D. N. Cassidy	Little Falls.
Middleville	A. W. Ford	Middleville.
Morts	M. C. Morts	Mohawk
Murphy, J. C	J. C. Murphy	Norway.
Newport	C. G. Babcock	Newport.
Newport Hill	P. Welch	Poland.

Newville Association	James Wafer	Newville.
North Fairfield	M. J. Newman	Fairfield.
North Litchfield	H. H. Davis	North Litchfield.
North Winfield No. 1	C. T. Wheelock	West Winfield.
Northwood	P. A Creamer	Northwood.
Norway	H. C. Niehols	Norway.
Norway Association	Frank T. Turck	Newport.
Ohio Building	Thorn E. Curtis	Ohio.
Old Manheim	Joseph Rice	Little Falls.
Old Fairfield	A. C. Wilson	Fairfield.
Old Salisbury	Jephthal Hand	Salisbury.
Paines Hollow	Geo. H. Van Slyke	Edicks
Poland	J. B. Read	Poland.
Rickard, R. L	R. L. Rickard	Cullen.
Ruby	C. G. Babcock	Newport.
Shed Brook	C. G. Babcock	Newport.
Shell's Bush	M. Rasback	Little Falls.
Short Lots	W. W. Richardson	West Schuyler.
Small's Bush	Adam Casler	Little Falls.
Snell's Bush	James A. Erwin	East Creek
Star	H. A. Skinner	Little Falls
Staring	Gilbert Staring	Deck.
Sterling Creek	C. G. Babcock	Newport.
Sweet Clover	Everett C. Judson	Russia.
Tompkins, A	A. Tompkins	Dolgeville.
West Schuyler	Wm. Budlong	West Schuyler.
West Winfield	C. Vagts	West Winfield.
Wheelock, C. T., No. 1	C. T. Wheelock	West Winfield.
Whipple	B. A. Whipple	Van Hornesville.
Young, L. D	Harvey Young	Warsaw.
Zoller	Jacob Zoller	Little Falls.
999	W. McKerron	Middleville.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC. — JEFFERSON.

NAME OF FACTORY.	Applicant	Post-office.
Adams	C. A. Perkins	Adams.
Antwerp	F. X. Baumert & Co	Antwerp.
Bridge	Daniel Cool	Adams
Brownville	C. C. Shipman	Brownville.
Bullock	E. A. Harding	Worthville.
Camp Mills	C. B. Arnold	Sackett's Harbor.
Centre	Adam Bickelhaupt	Redwood.
Cloverdale	M. A Jayner	Philadelphia.
Cold Brook	W. F. Dollinger	Omar.
Cold Spring	C. A. Overacker	Redwood.
Columbian	George Van Camp	Thousand Island Park.
Cooper, I. C., Nos. 1, 2 and 3	I. C. Cooper	Theresa.
Devoirs Corners	Zuriel Survay	Carthage.
Diamond	Harrison Fuller	Adams Centre.
Drill Well	C. W. Cheney	Sterlingville.
East Antwerp	E. A. Dundon	Sterlingbush.
East Boylston	Geo D. Eggleston	Lorraine.
Empire State	R. P. Grant	Clayton.
Fairview	R. P. Grant	Clayton.
Farmers	R. P. Grant	Clayton
Fillmore Bros	H. H. Fillmore	Woodville.
Five Corners	Corey Merriman	Black River.
Fox Creek	Hentz & Wilcox	Three Mile Bay.
Grindstone Island	R. P Grant	Clayton.
Henderson	E. Fayles	Henderson.

Jefferson Valley	Schell Bros	Evans Mills.
King Frank	Frank King	Ellisburgh.
Line Road	R. P. Grant	Clayton.
Lorraine Village	Fox, Grow & Caulkins	Lorraine.
Maple Grove	A. M. Brown	Lorraine.
Mather Bros	S. Mather	Belleville.
Maxon, P. S.	P. S. Maxon	Adams Centre.
New	B. Worthingham	Henderson.
North Adams	E. D. Holloway	Adams Centre.
O. K.	F. A. Knapp	Great Bend.
Ontario	Warren Walworth	Sackett's Harbor.
Orleans Centre	Henry Wetterhan	La Fargeville.
Orleans Valley	R. P. Grant	Clayton.
Perry	Levi S. Perry	Limerick.
Piller Point Central	Wm. M. Elmer	Watertown.
Pitkin	L. S. Pitkin	Lorraine.
Pleasant Valley	C. E. Wiggins	Cape Vincent.
Point Vivian	Rose Northup	Alexander Bay.
Riverside	J P. Carpenter & Son	Ox Bow.
Rock Spring	Geo. Jeffers	Belleville.
Scotch Settlement	Peter Weber	Ox Bow.
Seague	Archie A. Campbell	Rodman.
Smith, B P.	John Schrodt	Black River.
Spring Brook	Alva H. Klock	Natural Bridge.
Springer	R. R. Kirkland	Redwood.
Stone, E. L. Nos. 1, 3 and 4	E. L Stone	Mannsville.
Stone Mills	D. Fuller	Stone Mills.
Sunny Side	L. A. & A. E Helmer	Evans Mills.
Warren Settlement	Louis Cornaise	Rosiere.
West Carthage	Chas. E. Besha	Carthage.
Williams, E. J. No. 2	E. J. Williams	Rutland Cen.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC — JEFFERSON — (*Continued*).

NAME OF FACTORY.	Applicant	Post-office.
Wind Mill	G C. Shipman	Brownville.
Winona	W. A. Petrie	Winona.
1000 Island	R. P. Grant.	Clayton
	LEWIS.	
Alpine	Wm. Blum	High Market.
Atwell's	F. E. Atwell	Martinsburgh.
Beach Hill	Albert Merz	New Bremen.
Bonaparte Lake	A. J. Hoffman	Harrisville.
Boston Brand	John T. Smithling	Lanesburgh.
Brookside	Geo Spencer	Boyd.
Carpenter, J. H	J. H Carpenter	Turin.
Champion Spring	Christian Hirschey	Beaver Falls.
Clover Valley	H. E. Essington	Carthage.
Clover Valley	W. S. Benton	New Bremen
Cold Spring	Chandler E. Merz	Croghan.
Collinsville	Herbert J. Roberts	Collinsville.
Copenhagen	Cook & Otis	Denmark.
Croghan	Albert Henry	Croghan.
Croniser, Chas	Chas. Croniser	Florence.
Crystal Dale	Frank G Kent	
Denmark	A. & H. E. Cook	Denmark.
Eagle	E. G. Graves	Lowville.
Farmers Choice	Wm. S. Benton	New Bremen.
Fish Creek	Henry G. Deis	Constableville.

Gilt Edge	Milton G. Fassett.	W. Martinsburgh.
Glendale	Rudolph Regez	Glendale
Gowdy	F. C. Gowdy	W. Martinsburgh.
Haller	W. A. Haller	Beaver Falls.
Harter	P. A. Harter	Copenhagen.
Hillside	W. S. Benton	New Bremen.
Houseville	J. H Smith	Houseville.
Independence	Lyman Burdick	Glendale.
Katsmayer	AndrewKatsmayer	W. Leyden.
Kirschnerville	Nicholas Keefe	Kirschnerville
Legal Tender	Jas. E. McGrath	Turin.
Lowville	Jos. Merz	Lowville.
Maple Ridge	M. J. McGrath	West Leyden.
Miller	Michael Heiley	Constableville.
Mohawk Hill	H. A. Johnson	Constableville.
Moose Creek	H. B. Thayer	Leyden.
New Boston	T. W. McGrath	New Boston.
New Colnmbia	John B. Vary	Harrisburgh.
New Model	Clinton A. Fox	Copenhagen.
Petrie	Henry Petrie	Turin.
Pinckney Corners	E L. Finn	Pinckney.
Sharp	Wm. C. Spencer	Lowville.
Sins & Bierlee	Joseph Sins	West Leyden.
Spring Brook	M. L. Hoffman	Lyons Falls.
Staring	A. C. Evans	Houseville.
Star Spring	S. L. Hirschy	Castorland.
State Road	E. C. Mourat	Croghan.
Sulphur Springs	J. H. Searl	Lowville.
Rector	Morgan Smith	Rector.
Rising Star	Cook & Otis	Denmark.
Riverdale	A. W. Van Arnum	Greig.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC.— LEWIS — (*Continued*).

NAME OF FACTORY.	Applicant.	Post-office.
River Street	G. H. Monroe	Copenhagen.
Roaring Brook	W. E. Gaynor	East Martinsburgh.
Roaring Brook	J. S. Loomis	Locust Grove.
Union	D. Kent	Watson.
Union	John C. Hardy	Copenhagen.
Valley	Robt. Wittwer	Glendale.
Valley Dale	Hoyt Matty	Bellwood.
Valley Spring	Fred H. Loucks	Lowville.
Welsh Hill	Edwin H. Evans	Turin.
West Harrisburgh	W. A. Wheeler	Bellwood.
West Leyden	M. J. McGrath	West Leyden.
Williams, E. J., No. 3	Loren D. Fox	Barnes' Corners.
	LIVINGSTON.	
Keshequa	Mrs. S. Wheeler	Dalton.
	MADISON.	
Beaver Creek	Wm. W. Clark	Brookfield.
Bradley Brook	F. E. Brown	Eaton.
Bridgeport	John Durst	Bridgeport.
Brown's Valley	D. A. Hopkins	Georgetown.
Creamery	Hopkins & Brown	Georgetown.
Crystal Spring	O. J. Tucker	Clockville.
East Boston	D. B. Overhiser	East Boston.

Eaton	Eugene Brown	Eaton.
Elm Grove	E. G. Franklin	Randallsville.
Erieville	C. E. Maynard	Erieville.
Excelsior	Geo. H. Dennis	Chittenango.
Excelsior	Clinton E. Palmiter	Brookfield.
Hamilton	John Harrison	Hamilton.
Harris	Edgar Harris	Brookfield.
Hawks	W. G. Hatch	Lebanon.
Ladd, Dan	Dan Ladd	Canastota.
Lakewood	Jas. A. Bushnell	Lakeport.
La Munion & Clark	La Munion & Clark	Munnsville.
Lebanon	Wm. G. Hatch	Lebanon.
Line	S. J. Upham	Lebanon.
Madison Centre	F. Blanding	Hubbardsville.
Maple Grove	Thos. Virgan	Lakeport.
Marsh	C. O. York	Brookfield.
North Cazenovia	P. H. Wager	Chittenango.
Oneida Valley	Edgar Hills	Oneida Valley.
Peck's Corners	B. Fred Saunders	Georgetown.
Peterboro	Daniel Wolfe	Peterboro.
Pine Woods	Grant Hollenbeck	Pine Woods.
Pleasant Valley	Levi Miller, Jr.	Peterboro.
Poolville	Wm. E. Stryker	Poolville.
Reservoir	S. D. Burdick	De Ruyter.
Snell	H. Snell	Lebanon.
Solsville	A. N. Peckham	Solsville.
South Hamilton	Dresser & Harris	So. Hamilton.
Springdale	W. S. Jennings	Clockville.
Spring Road	C. A. Rainbow	De Ruyter.
Stevens	C. G. Stevens	Georgetown Station.
Stockbridge	Carl Leach	Stockbridge.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC. — MADISON — (*Continued*).

NAME OF FACTORY.	Applicant.	Post-office.
Stockbridge Star	A. W Hinman	Munnsville.
Temple	I. A. Wager	No. Brookfield.
Union	M. H Morgan	Brookfield.
West Hill	West Hill Cheese Co.	Chittenango.
Winsor	Seymour Delyne	Lakeport.
York, L. C.	York Bros.	North Brookfield.
	MONTGOMERY.	
Ames	M. M. Miller	Ames.
Bowman's Creek	Peter McEwen	Marshall.
Brookman's Corners	Martin A. Pickard	Fort Plain.
Buel	Henry F. Sammons	Canajoharie.
Canajoharie	Horatio Nellis	Canajoharie.
Cayadutta	A. P. Wemple	Fonda.
Christman, G. H	G. H Christman	St. Johnsville.
Crystal Spring	Albert Davy	Minden.
Dunkel, Albert	Gustave Busholtz	Fort Plain.
Elm Grove	Jonas Moak	Minden.
Flat Creek	Jacob A. Wessell	Flat Creek.
Hallsville	Chas. Van Slyke	Hallsville.
Lykers Corners	John V. Lyker	Lykers.
Mohawk	Daniel Dockstader	Palatine Bridge.
Nellis	John A. Nellis	St. Johnsville.
Nellis, A	Jacob C. Nellis	Palatine Bridge.

Palatine Union	Philip G. Yost	McKinley.
Randall	Geo. A. Dillenbeck	Randall.
Root	R. Devendorf	Currytown.
Saltsman	E. G. Saltsman	Fort Plain.
Sand Hill	T. F. Bellinger	Fort Plain.
Smith, A. & Co.	Fayette B. Smith	St. Johnsville.
Sprakers	Menzo McEwan	Sprakers.
Stone Arabia	Albert Kilts	Stone Arabia.
Van Deusen, De Witt	Reuben Walts	Freys Bush.
Waterville	L. S. Mesick	Ames

ONEIDA.

Alexis	David E Karlen	Boonville.
Augusta	P. P. Powers	Augusta.
Augusta Valley	J. W. Skerritt	Vernon Centre.
Baker	Pauline L. Baker	Camden.
Bridgewater	Zenas Eldred	Bridgewater.
Castle, G	H. D. Morehouse	Ava.
Chrestien, F. N., Nos. 1 and 2	F. N. Chrestien	Camden.
Cold Spring	Seward S. Mowers	Remsen.
Cornish	A. Cornish	Camden.
Deansville	Jas. D. Kelly	Deansville.
Delta	C. N. Bathrick	Delta.
Donser	J. J. Donser	Boonville.
Elmwood	Burton Case	Boonville.
Farmers	E. D. Franklin	Leila.
Fitch & Bacon	W. E Golly	Verona.
Florence Village	Jas. Kirkland	Florence.
Forest Home	J. C. Croniser	Point Rock.
Forest Port	D. R. Griffith	Forest Port.
Franklin	A. J. Callahan	Franklin Iron Works.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC.— ONEIDA — *Continued.*

NAME OF FACTORY.	Applicant.	Post-office.
F. T.	S. J. Austin	North Western.
Green's Crossing	Dick Behn	Cassville
Greggains, Wm.	Wm. Greggains	Glenmore.
Hatch's Corners	Mabb Bros	Greenway.
Hecla	Thos. J. Olney	Hecla.
Hillside.	Melvin Sergeant	Camden.
Hiltbrand, S. J	S. J. Hiltbrand	Floyd's Corners.
Jones, R. G	Robt. G. Jones	Glenmore.
Katsmeyer Branch	Andrew Katsmayer	West Leyden.
Kent, B. H.	B. H. Kent	East Steuben.
Lee Centre	H. M. Parke	Lee Centre.
Lee Corners	H. A. Morehouse	Stokes.
Lowell	S. J. Burleigh	Lowell.
Maple Grove	Alexander Blue	North Gage.
Meadow Brook	U. Fitch	Boonville.
Merry, G	G. Merry	Verona.
Miller Branch	John Miller	Camden.
Mitchell Union	J. Edgar Mitchell	Remsen.
Mud Lake	J. J. Donser	Boonville.
Mullin Bros	Jas. Mullin.	Glenmore.
Mullin Hill	Robt. Roberts	Delta.
New London	J. J. Senn	New London.
North Bay	N. Van Horne	North Bay.
North Bridgewater	Andrew Knauer	North Bridgewater.
North Gage	P. Welch	North Gage.

North Steuben	N. H. Folts	North Steuben.
North Trenton	G. N. Slone	Remsen.
Pillmore	David B. Anderegg	Westernville.
Point Rock	C. H. Walters	Point Rock.
Porter	L. W. Porter	North Western.
Rathbunville	R. T. Ford	Verona Mills.
Rathbun's	Chas. Rathbun	Rome.
Remsen	T. J. Williams	Remsen.
River Road	Thomas Prescott	Maynard.
Rock Spring	J. C. Croniser	Point Rock.
Sly, J. H	Frank J. Sly	Delta.
Southwestern Association	Chas. D. Parsell	Big Brook.
Spring Brook	W. J. McComb	Boonville.
Star Hill	Edward E. Jones	Remsen.
Steuben Centre	P. C. Mills	Steuben.
Storey	Storey Bros	Westmoreland.
Taberg	Geo. J. Hass	Taberg.
Teal	E. E. McFarland	Oriskany.
Thomas, R. E	Chas. F. Hughes	Alder Creek.
Tuthill, D. H.	Tuthill Bros	Camden.
Union	A. W. Walker	Boonville.
Union	E D. Franklin	Leila.
Vernon	Arthur N. Spurr	Vernon.
Verona Central	F. J. Merry	Verona Station.
Verona Landing	Mrs. T. Breckenridge	Higginsville.
Vienna	Freeman & Blasier	Vienna.
V. V	J. F Burleigh	Vernon.
Walsworth	David Blum	Delta.
West Ava	Henry D. Morehouse	Ava.
Westernville	John McCurn	Westernville.
West Rome	Louis Roth	Rome.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC.— ONEIDA — (*Continued*).

NAME OF FACTORY.	Applicant.	Post-office.
West Vienna	J. H. Meays	Vienna.
White Clover	Harry W. Boles	Deerfield.
Willow	Godfrey Teuscher	Alder Creek.
Willow Grove	N. W. Irwin	Trenton.
Wittwer, S.	Samuel Wittwer	Colemans.
	ONONDAGA.	
Block	Keough & Newman	Delphi.
Cato	W. E. Cusack	Jordan.
Cicero	D. Smith	Cicero
North Manlius	Jas W. Miller	North Manlius.
Pleasant Valley Association	J. J. Howe	Delphi.
Pompey Centre	Robert Moore	Pompey Centre.
Pompey Star	O. L. Robinson	Fabius.
Riverside	F. W. Church	Belgium.
Staring's	B. F. Staring	Kirkville.
	ONTARIO.	
Gregory	Chas. B. Gregory	Geneva.
	OSWEGO.	
Amboy Centre	Robert Foils	Amboy Centre.
Castor	Geo. L. Castor	Pulaski.
Central Square	H. E. Beeby	Central Square.

Colosse Union	Homer Beaupre	Colosse.
Constantia	H. D. Scoville	Constantia.
Davis	H. L. Davis	Sand Bank.
Dewey	Chas. Bartell	Mexico.
Druce	A. C. Druce	North Volney.
Dugway	A. H. Farney	Dugway.
Eagle	Walter Travor	Butterfly.
East Scriba	Chas. Grimm	Scriba.
Empire	Elgin McTaggert	Daysville.
Empire	Geo. B Cusack	Clifford.
Finster, I. E	I. E. Finster	Lacona.
Hale, I L	I. L. Hale	Bowen's Corners.
Hannibal	E. B. Tucker	Hannibal.
Hastings	E L. Jenning	Hastihgs.
Hess	H. S. Casler	West Amboy.
Hinmansville	W. H. Keller	Hinmansville.
Howardville	Chas. P. Burch	Howardville.
Ingersoll, E. M	E. M. Ingersoll	Lacona
Johnson, G T	Greene Johnson	Williamstown.
Le Clair	F. P. Le Clair	Lacona.
Loomis, W. W	W. W. Loomis	Ingalls Crossing.
McKinney, A. C	A. C. McKinney	Orwell.
Mayflower	Andrew Ott	Redfield.
Mayflower	H. E. Potter	West Monroe.
Mill's Brook	W. E. Hall	North Hannibal.
Molino	Jos. A. Barber	Orwell.
Mount Pleasant	Bergey Bros	Mount Pleasant.
New Haven	Emile George	New Haven.
North Road	Will K. Haggerty	Scriba.
North Scriba	C. A. Donnelly	North Scriba.
Peet's Corners	A. Sauter	East Palermo.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC.— OSWEGO — (*Continued*).

NAME OF FACTORY.	Applicant,	Post-office.
Phœnix	A. P. Merriam	Phœnix.
Porter	Hiram Stoddard	New Haven.
Pulaski	W. C. Holmes	Pulaski.
Ricard	D. E. West	Ricard.
Salisbury	Brayton Salisbury	Pulaski.
Salisbury Nos. 2, 3 and 9	Brayton Salisbury	Pulaski.
South Hannibal	Trimble & Palmer	Palermo.
South Richland	John J. Miller	South Richland.
South Richland No. 2	John J. Miller	South Richland.
Stevens	A. M. Stevens	Orwell.
Stone Quarry	John Pifer	Arthur.
Union Square	Geo. B. Vandewerker	Union Square.
Volney Centre	G. D. Trimble	Palermo.
Weeks, John M.	John M. Weeks	Prattham.
West Monroe Star	Will Mutter	West Monroe.
Whitcomb	I. L. Hale	Bowen's Corners.
Wilcox	Milo Wilcox	Oswego Falls.
Wilder	J. B. Wilder	Kasoag.
Willow Brook	Simon J. Hadley	Sandy Creek.
	OTSEGO.	
Baker, H. J	D. C. Johnson	Burlington Flats.
Barsto Corners	H. C. Brockway	Richfield.
Branch of the Union	E. W. Wright	Burlington Flats.
Brighton	E. J. Parker	Richfield.

Brockway, H. C., Nos. 1 and 4	H. C. Brockway	Richfield.
Cherry Valley	J. H. Harrison	Cherry Valley.
Co-operation	F. W. Russell	Garrattsville.
Dimmick Hollow	Gilbert, Root & Co	Gilbertsville.
East Springfield	Charles C. Brownrigg	East Springfield.
Fall Brook	O. P. Root	Gilbertsville.
Fay	C. Garline	Cullen.
Flax Island	C. P. Root	Gilbertsville.
Ford	H. E. Padgett	Morris.
German	August Aufmuth	Fly Creek.
Gilbertsville	Gilbert, Root & Co	Gilbertsville.
Gregory, L. W	G. C. Pashley	Welcome.
Gregory, S. C	Gilbert, Root & Co	Gilbertsville.
Harbor	H. C. Brockway	Richfield.
Harris	Gilbert, Root & Co	Gilbertsville.
Hartwick	A. W. Brumaghim	Otsdawa.
Hartwick Seminary	Gilbert, Root & Co	Gilbertsville.
Homemade	C. P. Root	Gilbertsville.
Hopkins, Oscar	R. G. Peet	Mount Vision.
Huestis, R. C., No. 1	R. C. Heustis	Burlington Flats.
Huntley	H. C. Brockway	Richfield.
Johnson	D. C. Johnson	Burlington Flats.
Kinney's	Mrs. J. P. Kinney	Snowden.
Lamb's, E. D	E. D. Lamb	Unadilla Forks.
Lena	Will W. Arnold	Lena.
Little Lakes	H. C. Brockway	Richfield.
Lloydsville	K. J. Wing	Unadilla Forks.
Milford	Chas. S. Barney	Milford.
Milford Centre	Levant W. Seeger	Portlandville.
Morris	E. R. Hunt	Morris.
Nichols, A. M	A. M. Nichols	West Edmeston.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC — OTSEGO — (*Continued*).

NAME OF FACTORY.	Applicant.	Post-office.
Noblesville	C. P. Root	Gilbertsville.
No. 3	H C. Brockway	Richfield.
No. 7	H. C. Brockway	Richfield.
Otego	C. P. Root	Gilbertsville.
Park	G. M. Ackerman	Burlington.
Patten	F. B. Rainey	Hartwick.
Pierstown	H. C. Brockway	Richfield.
Pittsfield	E. W. Wright	Burlington Flats.
Pittsfield Farm	G. Edgar Gardner	Pittsfield.
Pleasant Valley	H. C. Brockway	Richfield.
Red Creek Valley	Jeremiah Fogarty	Cooperstown.
Root's	Gilbert, Root & Co	Gilbertsville.
Roseboom	A. J. Miller	Roseboom.
Shaw	C. P. Root	Gilbertsville.
Sidney Centre	C. P. Root	Gilbertsville.
Smith's	C. P. Root	Gilbertsville.
South Hartwick	Gilbert, Root & Co	Gilbertsville.
Sponenburgh, W. H	W. H. Sponenburgh	Fly Creek.
Star	Geo. F. Burke	West Burlington.
Taylor Hill	N. N. Talbot	North Edmeston.
Trout Brook	A. W. Chase	North Edmeston.
West Exeter	H. C. Brockway	Richfield.
Westford	C. E McRosie	Westford.
White House	F B. Rainey	Hartwick.
Wilber Lake	James W. Taylor	Oneonta.

Wileytown	L. P. Young	Oaksville.
Willmarth	H. C. Brockway	Richfield.
Wright, E. W., Nos. 2, 5, 7 and 10	E. W. Wright	Burlington Flats.
Young, Fred L	Fred L. Young	Oaksville.
Youngs	C. P. Root	Gilbertsville.

ST. LAWRENCE.

Apple Grove	W. A. Aldons	Canton.
Belleville	E. A. Sheffner	Edwards.
Black Lake	S. M. Derbyshire	Hammond.
Breese	W. M. Burlingame	Richville.
Brier Hill	Geo. M. McCadam	Hammond.
Calabogia	E. A. Gray	South Hammond.
Centre	James Farrell	Morristown.
Clover Hill	L. Breackenridge	Pope's Mills.
Cold Spring	E. A. Hurst	Macomb.
Cream of the Valley	A. W. Overaker	Gouverneur.
Dupontville	C. J. Shoulette	Rossie.
East Gouverneur	Wm. A. Freeman	Gouverneur.
Eastman	G. W. Elsworth	West Pierrepont.
Edwards Village	Elmer Grant	Edwards.
Elmdale	Homer F. Smith	Elmdale.
Elm Grove	Pickard & Baker	Hermon.
Gouverneur Village	J. F. Hodgkins	Gouverneur.
Hammond	Geo. M. McCadam	Hammond.
Hickory Lake	W. E. Beardslee	Hickory.
Hodgkin	John H. Berry	Spragueville.
Howard	Jas. Weathrup	Rensselaer Falls.
Island Branch	Jas. H. Parker	Gouverneur.
Jenny Creek	Wilson Wing	Pitcairn.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC.— ST. LAWRENCE — (*Continued*).

NAME OF FACTORY.	Applicant.	Post-office.
Little Bow	Gore & Briggs	Gouverneur.
Marvin Hill	S. M. Derbyshire	Hammond.
Morning Star	R. A. Norval	Galilee.
North Hammond	F. H. Fitch	North Hammond.
North Russell	C F. Clark	North Russell.
Norton	A. H. Rodgers	Hammond.
Orange	C. F. Clark	North Russell.
Orange Creamery	C. F. Clark	North Russell.
Richville	Irving G. Smith	Richville.
River Road	G. H. Clifford	De Kalb.
Rossie	J. H. Shoulette	Rossie.
Scofield	J L. Wood	De Kalb Junction.
Somerville	Jas. W. Marshall	Somerville.
South Hermon	Geo. L. Bush	Gouverneur.
Sprague	F. W. Sprague	Hailesboro.
Sprague, J. E	J. E. Sprague	Gouverneur.
Steele's Corners	Bell & Fuller	Spragueville.
Sylvia Lake	C. C. Fuller	Fowler
Wegatchie	Frank Northup	Wegatchie.
West Fowler	C. W. Fenner.	Spragueville.
	STEUBEN.	
Call Hill	D. A. Oakes	Purdy Creek.
Drake	John S. Stephens	Greenwood.
East Troupsburg	James McKinley	East Troupsburg.

Greenwood	Geo. M. Stephens	Greenwood.
Highup	Porter Stephens	Highup.
Kanona	Henry Dillenbeck	Kanona.
Neil's Creek Co.	E. P. Clyms	Avoca.
Prattsburgh Creamery	Prattsburgh Creamery Co	Prattsburgh.
Troupsburg	James McKinley	Troupsburgh.
Wallace	I. F. Barnes	Neil's Creek.
Woodhull White Clover	Wm. L. Wildrick	Woodhull.

TIOGA.

Shepards	C. B Shepard	Berkshire.

TOMPKINS.

Carolina	R. G. H Speed	Slaterville Springs.
Dryden Lake	Frank E Perry	Dryden.
Freeville	Humphrey Williams	Freeville.

WARREN.

Goshen	James Pardee	Bear Lake, Pa.

WASHINGTON.

North Granville	L. Wolfe	North Granville.
Slyborough	G. F. McCotten	Slyborough.

WAYNE.

Red Creek	Clinton E. Tucker	Red Creek.

WYOMING.

Arcade	John L. Gibby	Arcade.
Attica Nos. 1 and 2	W. H. Morton	Attica.

LIST OF STATE CHEESE BRANDS ISSUED DURING THE YEAR, ETC.— WYOMING — (*Concluded*).

NAME OF FACTORY.	Applicant.	Post office.
Castile	L. C. Felch	Castile.
East Koy	C. H. Bevier	East Koy.
Gainesville	A. L. Fuller	Gainesville.
Greene, C. A	C. A. Greene	Warsaw.
Hermitage	Herbert E. Dolph	Hermitage.
Pike Five Corners	J O. Milks	Pike.
Sandusky No. 8	W. H. Wilson	Arcade.
Star No. 4	T. J. Hubbard	Weathersfield.
Weathersfield	Lewis Safford	Weathersfield Springs.
Wing Street	E. O. Wood	Bliss.

VINEGAR.

The vinegar law of this State, so-called, is that portion of the Agricultural Law known as article 3, and reads as follows:

ARTICLE III.

ADULTERATED VINEGAR.

Section 50. Definition of adulterated vinegar.
51. Manufacture and sale of adulterated or imitation vinegar prohibited.
52. Packages containing cider vinegar to be branded.
53. Penalties.

Section 50. **Definition of adulterated vinegar.**—All vinegar which contains any portion of lead, copper, sulphuric acid or other ingredients injurious to health, or any artificial coloring matter, or which has not an acidity equivalent to the presence of at least four and one-half per centum, by weight, of absolute acetic acid, or cider vinegar which has less than such an amount of acidity, or less than two per centum of cider vinegar solids on full evaporation over boiling water, shall be deemed adulterated.

The term cider vinegar, when used in this article, means vinegar made exclusively from pure apple juice.

Section 51. **Manufacture and sale of adulterated or imitation vinegar prohibited.**—No person shall manufacture for sale, keep for sale or offer for sale:

1. Any adulterated vinegar.
2. Any vinegar or product in imitation or semblance of cider vinegar, which is not cider vinegar.
3. As or for cider vinegar, any vinegar or product which is not cider vinegar.

Section 52. **Packages containing cider vinegar to be branded.**—Every manufacturer or producer of cider vinegar shall plainly brand on the head of each cask, barrel, keg or other package containing such vinegar his name and place of business and the words "cider vinegar." And no person shall mark or brand as or for cider vinegar any package containing that which is not cider vinegar.

Section 53. **Penalties.**—Every person violating the provisions of this article shall forfeit and pay to the people of the state the sum of one hundred dollars for each violation.

The examination of this provision discloses the fact that there is a standard for pure cider vinegar, and that the principle involved in the standard is the same as the principle involved in the standard of the milk law; that no vinegar shall be sold upon the market that contains less than 4½ per cent. of acetic acid, and no cider vinegar shall be sold upon the market which contains less than 2 per cent. of cider vinegar solids; that no adulterated vinegar shall be sold, and that the other prohibitions of the law are to prevent the fraud that was commonly practiced of selling inferior vinegar as and for cider vinegar, which was made possible by coloring them to imitate such vinegar. I find, upon examining the reports, that the only case that has been reported under this law is that of the *People* v. *Girard*, 145 N. Y. 105. The principle question in that case was the question of the constitutionality of the law prohibiting the coloring of vinegar. The defendant claimed it was unconstitutional on the ground that a party making a vinegar, that was not cider vinegar, might desire to color it some distinctive color for the purpose of showing that it was not like any other vinegar, and that to prohibit this would be to deprive him of his right to manufacture his goods in such a way that the identity could not be mistaken. The Court of Appeals have decided that the law to prohibit such coloring was constitutional. That is the only question in the law that has been litigated thus far. I find from the reports of the different assistant commissioners that as a whole the law is being fairly well obeyed by the vinegar manufacturers. There are, however, a few exceptions; in the ninth division, in which is situated the city of Buffalo, there have been quite a number of violations. We have made a number of cases there and are looking after them closely. The prosecutions for the violations for this part of the law are reported under the heading of prosecutions elsewhere in this report. There are certain manufacturers in this State, I find, who have been laboring under the notion that they have a right to manufacture goods prohibited by this article if they do not sell them, or offer them for sale, within this State; their theory being that they had a right to so manufacture to be sold in other States. We have called their attention to the statutes, and I have instructed my assistants to inform them that the manufacture of these goods within the State was illegal. They have now stopped such manufacturing so that none are made in this State at the present time, unless it is done clandestinely. If such is the case we have not as yet ascertained the fact. Section 21 of article 2 of the Agricultural Law provides as follows:

DISEASES OF DOMESTIC ANIMALS.

Article 4 of the Agricultural Law provides for the suppression and prevention by the Commissioner of Agriculture of infectious or contagious diseases except tuberculosis and glanders among domestic animals. The provisions of that law are mainly set forth in sections 60, 61, 62, 63, 64, 65, 66, 67, 68 and 69, which read as follows:

Section 60. Suppression of infectious or contagious diseases.
61. Commissioner to issue notice.
62. Farms to be quarantined.
63. Detention and destruction of animals.
64. Employment of veterinary surgeons.
65. Regulations and enforcement thereof.
66. Penalties.
67. Expenses.
68. Compensation to owners of animals destroyed.
69. Federal regulations.
70. Rights of federal inspectors.

Section 60. **Suppression of infectious and contagious disease.** Whenever an infectious or contagious disease, except tuberculosis and glanders, affecting domestic animals, shall be brought into or break out in this state, the commissioner of agriculture shall take measures to promptly suppress the same, and to prevent such disease from spreading.

Section 61. **Commissioner to issue notice.**—He shall issue and publish a notice, stating that a specified infectious or contagious disease exists in any designated county or other geographical district of the state, and warning all persons to seclude in the premises where they may be at the time, all animals within such county or district that are of a kind susceptible to contract such disease, and ordering all persons to take such precautions against the spreading of the disease as the nature thereof may, in his judgment, render necessary or expedient, and which he may specify in such notice. Such notice shall be published in such newspapers, and be posted in such manner as the commissioner may designate, and as, in his judgment, are most likely to give notice thereof.

Section 62. **Farms to be quarantined.**—The commissioner or an assistant commissioner shall order any premises, farm or farms where such disease exists, or recently existed, to be put in quarantine, so that no domestic animals be removed from or brought to the premises or places quarantined, and shall prescribe such regulations as he may judge necessary or expedient to prevent the communication of the disease by infection or contagion in any way from the places so quarantined.

Section 63. **Detention and destruction of animals.**— The commissioner or an assistant commissioner, may order all or any animals coming into the state to be detained at any place or places for the purpose of inspection and examination. He may prescribe regulations for the destruction of animals affected with infectious or contagious disease, and for the proper disposal of their hides and carcasses, and of all objects which might carry infection or contagion. Whenever, in his judgment necessary, for the speedy and economical suppression or prevention of the spread of any such disease, he may cause to be slaughtered, and to be afterward disposed of, in such manner as he may deem expedient, any animal or animals, which, by contact or association with diseased animals, or by other exposure or infection or contagion, may be considered or suspected to be liable to contract or communicate the disease sought to be suppressed or prevented.

Section 64. **Employment of veterinary surgeons.**—The commissioner may employ such and so many medical and veterinary practitioners and such other persons as he may, from time to time, deem necessary to assist him in discharging the duties imposed upon him by this article, and may fix their compensation. All persons now employed by the governor for such purposes shall continue in the employ of the commissioner upon the same terms, until such employment shall be terminated or modified by the commissioner. No animal shall be destroyed by the commissioner or by his order, on the ground that it is a diseased animal, unless first examined by a medical or veterinary practitioner in the employ of the commissioner under this section, nor until such practitioner renders a certificate to the effect that he has made such examination, that in his judgment such animal is affected with a specified infectious or contagious disease, or that its destruction is necessary in order to suppress or aid in suppressing such disease, or to prevent such disease, or to prevent the spread thereof, specifying the reasons for such necessity.

Section 65. **Regulations and the enforcement thereof.** — The commission may prescribe such regulations as in his judgment may be thought suited for the suppression or prevention of the spread of any such disease, and for the disinfection of all premises, buildings, railway cars, vessels and other objects from or by means of which infection or contagion may take place or be conveyed. He may alter or modify, from time to time, as he may deem expedient, the terms of all notices, orders and regulations issued or made by him, and may at any time cancel or withdraw the same. He may call upon the sheriffs or deputy sheriffs, to carry out and enforce the provisions of any notice, order or regulation which he may make, and all such sheriffs or deputy sheriffs shall obey and observe all orders and instructions which they may receive from him in the premises.

Section 66. **Penalties.**—Any person violating, disobeying or disregarding the terms of any notice, order or regulation, issued or prescribed by the commissioner under this article, shall forfeit to the people of the state the sum of one hundred dollars for every such violation.

Section 67. **Expenses.**—All expenses incurred by the commissioner in carrying out the provisions of this article and in performing the duties herein devolved upon him shall be audited by the comptroller as extraordinary expenses of the department of agriculture, and paid out of any moneys in the treasury appropriated for such purposes.

Section 68. **Compensation to owners of animals destroyed.**—The actual value at the time they are killed of any animals slaughtered under the provisions of this article, shall be paid to the owners of such animals. For the purpose of ascertaining and determining such value, the commissioner, or any agent appointed by him under this article, shall appoint one appraiser, the owner of the animals killed shall appoint another, and the two thus appointed shall select a third, and the three shall appraise the amount to be paid to the owner of the animals. The board of claims shall have exclusive jurisdiction to hear, audit and determine all claims which shall arise under the provisions of this article for compensation for animals slaughtered, and to allow thereon such sums as should be paid by the state. No compensation shall be made to any person who has willfully concealed the existence of disease among his animals or upon his premises, or who in any way by act or willful neglect, has contributed to spread the disease sought to be suppressed or prevented.

Section 69. **Federal regulations.**—The commissioner of agriculture may accept, in behalf of the state, the rules and regulations prepared and adopted by the commissioner of agriculture or the secretary or department of agriculture of the United States, under any act of Congress for the establishment of a bureau of animal industry, or to prevent the exportation of diseased cattle, or to provide means for the extirpation and suppression of pleuro-pneumonia and other contagious diseases among domestic animals and shall co-operate with the authorities of the United States in the enforcement of the provisions of any such act.

Section 70. **Rights of federal inspectors.**—The inspectors of the bureau of animal industry of the United States shall have the right of inspection, quarantine and condemnation of animals affected with any contagious, infectious or communicable disease, or suspected to be so affected, or that may have been exposed to any such disease, and for such purposes they may enter upon any ground or premises; they may call the sheriffs, constables and peace officers to assist them in discharge of their duties in carrying out the provisions of any such act; and all sheriffs, constables and peace officers shall assist such inspectors when so requested, and such inspectors shall have the same powers and protection as peace officers, while engaged in the discharge of their duties. This state shall not be liable for any damages or expenses caused or made by such inspectors.

The report of Mr. Quigley, herewith submitted, shows that the contagious and infectious diseases to which the attention of this Department has been called during the last year have been in the counties of Oswego, Cattaraugus, Lewis, Madison, Sullivan, Chenango, Ontario, Yates and Monroe, and among the cattle it has been largely anthrax and tuberculosis. The disease of anthrax seems to be less prevalent this year than last. There is no contagious or infectious disease in this State, the suppression of which this Department is charged with, which has become epidemic. There has been considerable sickness among hogs, the particular nature of which is set forth in the reports of Mr. Quigley, above referred to, Dr. V. A. Moore, Dr. Wm. Henry Kelly and Dr. M. J. Henderson, which follow.

REPORT OF V. A. MOORE.

Hon. C. A. WIETING, *Commissioner of Agriculture, Albany, N. Y.:*

Dear Sir.—I have the honor to submit herewith a preliminary report on the investigation of an outbreak of supposed contagious disease among swine at Rome, N. Y., in November, 1896. On the 17th of that month, in company with Dr. W. H. Kelly, of Albany, the following facts concerning the disease were obtained:

At the farm of the Oneida County Home about 70 small pigs and 8 large hogs had died during the preceding two weeks.

There were about 40 fattening hogs still living and in apparently good health. A careful post mortem examination was made on 3 animals. The lesions which we found were neither constant in the different animals, nor were they typical of any of the infectious diseases of swine. A large number of tubes of culture media were inoculated from the different organs at the time of post mortem, and subsequently in this laboratory rabbits were inoculated with pieces of the diseased organs. A very few of the tubes developed recognized saprophytic bacteria; the others remained clear. All of the animals inoculated remained well, showing the absence of disease-producing bacteria.

The swine in this herd were fed upon the garbage from the home and cooked potatoes and soft corn. The pens were reasonably clean, but the pigs had been allowed to run in a small yard covered with horse manure, decomposing offal from several slaughtered cattle and pools of stagnant water. The manager stated that hogs had not been brought on the place recently and no evidence of the spreading of the disease from this to other herds could be found. Further, the history of the outbreak does not indicate the presence of a contagious disease. The facts indicate that these animals died from the effects of some organic poison which appeared in their food, or as the result of their unhealthy surroundings, and not from the effect of the microbe of any infectious disease.

Two other outbreaks of a disease of a similar nature were found in the vicinity of Rome among garbage-fed swine. An inspection of the premises showed the hog-pens, yards and surroundings to be in an exceedingly filthy condition.

In the report which I shall make to your department, at the close of the year, on swine diseases, and in which will be mentioned the conditions under which herds of swine in which supposed infectious diseases have occurred, and which have come to my notice, it will be found that the majority of the reported outbreaks of infectious diseases have occurred under similar unsanitary conditions. It is highly probable that if a knowledge of the nature of infectious swine diseases and of the disorders brought about by improper care could be disseminated among our farmers that many of the losses now sustained could be avoided.

Very respectfully,

V. A. MOORE.

REPORT OF WM. HENRY KELLY.

ALBANY, *November* 25, 1896.

Hon. CHAS. A. WIETING, *Commissioner of Agriculture:*

Dear Sir.—According to your instructions, I visited Rome, N. Y., on November 17th for the purpose of making an examination of the herds of swine reported to be suffering from a contagious disease. The disease was found on the farm of the Oneida County Home, Rome, N. Y., of which Mr. L. Mittenmaier, Jr., is superintendent, Richard Conley, Rome, N. Y., and John Dorn, Westmoreland, N. Y. Prof. V. A. Moore, of Cornell University, as pathologist, and Inspector Quigley were present.

Upon inquiry, we found that at the Oneida County Home about 70 small pigs and 8 large hogs had died during the preceding two weeks. There were about 40 fattening hogs still living, and in apparently good health. A post-mortem examination was held on three animals. Two of these died the night before, and the other was killed, in the last stages of the disease, for examination. The lesions found were not typical of any infectious disease of swine. The bacteriological examination, including animal inoculation (as you will see by the annexed report), with pieces of the affected organs, did not reveal the presence of hog cholera or swine plague.

The animals of the three herds were fed on garbage, cooked potatoes and soft corn. While the pens of the home were reasonably clean, the pigs were allowed to run in a small yard covered with horse manure, the decomposing offal from several slaughtered cattle and pools of stagnant water. The manager stated that the hogs had not been brought on the place recently, and evidences of the spreading of the disease from this to other herds in the neighborhood could not be found.

At the outbreak, after thirty pigs had died, and others were sick, Dr. Huff suggested that they all be turned in the woods, where they had nothing to eat but beech nuts. A number of them recovered; only eight died. If swine plague or hog cholera had been the cause of the deaths they would not have recovered under such treatment. The fact indicates that these animals died from the effect of some organic poison which appeared in their food, or as the result of the influence of the unhealthy surroundings, and not from the effect of the microbe of any infectious disease.

At the farm of Richard Conley we found that at the beginning he had 9 large hogs; 30 two to five months old, and 36 small pigs. On November 10th 5 large hogs, 30 two to five months old, and 13 small pigs were found dead. Three days later 18 small pigs were found dead, and at the time of the investigation all were dead.

The pens and surrounding yards were in a filthy condition. The lesions found were the same as those at the county home.

At John Dorn's farm, upon inquiry, we found that at the beginning, which was about November 28th, he had 2 old hogs and 42 small (one to three months) pigs, all of which died except one old hog. The lesions found were the same as before.

The pens and surroundings were also in a filthy condition, which, no doubt, was the cause of the disease.

The majority of the farmers think that anything is good enough for a hog, and the sooner that they can be taught that *hogs* need a good, clean place, as well as good food, the better it will be.

At all of these places they were instructed to clean these pens with a disinfectant, and burn all the dead animals.

Yours respectfully,

WM. HENRY KELLY, *V. S.*

POST-MORTEM EXAMINATION.

(Held at Rome, N. Y.)

No. 1. Black Berkshire, weighing about forty pounds; female, three months old. Died the night before. Post-mortem held about 9 a. m. The skin was covered with pink blotches on the throat, and darker colored blotches on the skin between the fore legs, extending over the abdomen and thighs.

Lymphatic glands of the inguinal region; also those in the vicinity of the head slightly enlarged and œdematous; cortex hæmorrhagic.

Thoracic cavity: Right lung normal, with the exception of a few ecchymotic spots. Left lung, tip of cephalic lobe hepatized; ventral lobe slightly congested. Principal lobe in a state of slight hypostatic congestion.

Heart: Pericardium normal. In left ventrical found a small number of black clots. Right ventrical, larger quantity of black clots.

Liver: Somewhat pale. Gall bladder contained a small amount of clear, yellowish bile.

Spleen: Dark colored; on the ental surface a few small blood tumors.

Kidneys: Left considerably enlarged; capsule easily removed; ental surface sprinkled with a large number of echymosis, varying in size from a mere point to two millimeters in diameter. Upon section the cortex thickly sprinkled with ecchymosis. Pyramids appeared normal; pelvis filled with a dark clot. Right kidney presented same external appearance; was taken for specimen.

Bladder: Contained about 5 c. c. of blood stained urine.

Messenteric glands slightly enlarged; cortex of same hæmorrhagic; others very dark color, showing evidence of older hæmorrhages.

Stomach glands considerably enlarged; cortex hæmorrhagic. Stomach contained a moderate quantity of partly-digested food; few ecchymosis in mucous membrane near orifice. Mucous membrane of duodenum pink, area of bloody extravasation being separated by one-half to two centimeters; mucosa of the jejunum apparently normal; slightly pigmented. Ileum containing considerable amount of blood-stained mucous, also a few small blood clots. Capillaries of the mucosa considerable injected; lower two feet of ileum mucous membrane covered with a thick, bloody mucous.

Cæcum and colon mucous membrane hæmorrhagic; contents bloody, consisting of a small quantity of blood-stained mucous. Lower colon containing considerable quantity of viscid fæces, and containing a considerable earth; slightly blood-stained. Mucous membrane containing areas sprinkled with blood; extravasation intervened with normal areas.

Rectum, normal.

Mucous membrane of mouth, including tongue and lips, normal.

No. 2. Chester White.—Poor condition, eight weeks old, weighing about fifteen pounds; sick about one week.

Skin over abdomen and inside of thigh, also over throat, covered with pinkish colored spots.

Small intestines deeply reddened. Messenteric glands enlarged. Fundus of stomach hyper-æmic, no hepatization.

No. 3. Jersey Red.—About four months old, weighing about seventy-five pounds, good condition; was killed. Had been sick about two weeks.

Inguinal glands considerably enlarged, slightly œdematous, cortex hæmorrhagic. Lungs slightly collapsed. Left lung, small areas in cephalic and ventral lobes hepatized, also a few small areas of collapsed surface of entire lung ecchymosis. Right lung, tip of cephalic and ventral lobes hepatized, less number of ecchymosis than in left.

Bronchial glands enlarged, hæmorrhagic.

Heart: Pericardium sac contained 100 centimeters of clear straw color serum. Surface of heart nearly covered with irregular areas of ecchymosis.

Liver pale, sprinkled with bluish areas. Connective tissue thickened, giving it a firm feeling.

Spleen slightly enlarged, dark color, pulp soft.

Kidney: Left large capsule easily removed; pale in color. Cortex rather firm. Pyramids swollen and hæmorrhagic, pelvis normal.

Stomach glands and messenteric glands enlarged, cortex haemorrhagic.

Intestines normal.

Bladder contained about 100 centimeters of clear urine. Colon contained some liquid of a yellowish color.

Mucous membrane of stomach pale, on which was found one healed ulcer.

BACTERIOLOGICAL EXAMINATION.

A tube of agar, and, in a few instances, one of boullion and gelatine, were made from the lymphatic glands (inguinal and mesenteric), heart, blood, liver, spleen and kidneys of the diseased pig. Pieces of the diseased organs were taken in sterile jars, from which rabbits were inoculated on the following day.

Nearly all of the inoculated tubes remained clear. In those made from the pericardial sac a strepocaceous appeared, and in a few of the others bacillus coli communis developed. The inoculated rabbits remained well. The miscroscopic examination of the tissues failed to reveal the presence of bacteria.

ALBANY, N. Y., *November* 7, 1896.

HON. CHAS. A. WIETING, *Commissioner of Agriculture:*

Dear Sir.— According to your instructions, I visited West Albany, N. Y., on the 1st of November, 1896, for the purpose of making an examination of a herd of swine, reported to be suffering from a contagious disease. The disease was on the land of the West Albany Stock Yard Company.

Upon inquiry, I found that the disease was first noticed about October 15th, when they had forty-five small pigs and fifty-five hogs; out of which ten died during the first three days. To prevent the loss of all the herd, all were slaughtered, except four pigs about four months old. Afterward three out of the four died, leaving only one on the place at the time of investigation.

The pigs were fed on garbage, collected from the city of Albany, cooked soft corn, potatoes and meal.

As I was unable to hold any post mortem, owing to all of the animals being dead and destroyed some time, I was unable to decide what caused their death.

Very respectfully,
WM. HENRY KELLY, *V. S.*

December 7, 1896.

HON. CHAS. A. WIETING, *Commissioner of Agriculture:*

Dear Sir.— According to your instructions, I went to Mr. Chas. E. Sliter's place, which is located in the town of Sand Lake, on the 2d inst., to investigate the disease affecting his milch cows, and which was thought to be "Infectious Abortion."

Upon inquiry, I found that the first one aborted about March 1st. Since that time eight have aborted at different intervals, the last one on Thanksgiving Day. All of these cows aborted when they were about seven months pregnant.

The cows were fed on gluten, wheat bran and barley.

The history would not indicate that it was infectious, as in infectious abortion, they usually abort at intervals of about eight days (Fleming). Furthermore, there was no evidence of the spreading of the disease from this to other herds in the neighborhood.

The stables were reasonably clean and light. I think the abortion was caused by too great an abundance of easily digested food, thereby inducing plethora, and, consequently, congestion of the uterus and loosening of the placentae.

Very respectfully,
WM. HENRY KELLY, *V. S.*

December 19, 1896.

HON. CHAS. A. WIETING, *Commissioner of Agriculture:*

Dear Sir.— After consulting with you in reference to the communication which I received from Dr. J. W. Marsh, of Schoharie, I visited that place, on the 12th inst., with Dr. V. A. Moore, of the New York State Veterinary College, for the purpose of making an examination of the herds, reported to be suffering from a contagious disease.

Upon inquiry, we found that several herds had been affected, but that they were either all dead, or the few that survived were apparently healthy. The last place that the disease had been was on the farm of Albert von Linden, in the town of Schoharie.

He was the owner of five old hogs and twenty-two small pigs, all of which are registered; and thirteen shoats of mixed breed. On the 5th of September he took his registered hogs to the Albany County Fair, which was held at Altamont. At the same fair there were other hogs (especially a carload from some distant place, which he was told, had been shown at several different places). Two weeks after the fair, about September 20th, he noticed that one of his hogs was sick. The same died in the course of a few days. The remainder of the registered ones gradually became sick and died; the last death occurring about a week prior to our visit. As this animal had been buried in lime, several days before, it was impossible to obtain specimens suitable for bacteriological examinations.

These animals were fed on corn meal, wheat middlings, apples and potatoes.

The registered hogs were separated from the common ones.

Dr. Marsh, veterinarian, and Dr. Haines, the family physician, held a post mortem on the last animal that died, and, according to their statement and the history of the case, it is probable that swine plague was the cause of the outbreak; but as we were unable to get any of the tissues, we were not able to decide the cause.

As a preventative, I recommended him to disinfect his pens, sprinkle lime around, and cautioned him from visiting places where they had hogs that had not been sick; also to prevent his neighbors, who had hogs that were healthy, from visiting his place.

Very respectfully,
WM. HENRY KELLY, *V. S.*

December 18, 1896.

HON. CHAS. A. WIETING, *Commissioner of Agriculture:*

Dear Sir.—On the 13th inst., after returning from Schoharie, Dr. V. A. Moore and myself were informed that there were two herds of swine near Albany affected by a contagious disease. These herds were located on the farms of Joseph J. Warren and William Buel.

After arriving at Warren's place we were informed that some three weeks ago he had about fifty fattening hogs. He has a contract to take the garbage from Keeler's hotel, in this city, which he fed to the hogs, mixed with corn meal, middlings and potatoes. After losing about ten he slaughtered the remainder to prevent further loss.

The hogs were kept in pens in an open field, separated from the rest of the buildings, as he keeps a large dairy herd. He stated that the hogs had not been brought on the place recently, and evidence of the spreading of the disease, from this to other herds in the immediate neighborhood, could not be found.

At Mr. Buel's place we were informed that he had three hogs, all of which died. We could not find a direct or indirect communication between these two herds. He also feeds garbage, but not from the same hotel.

The history of the outbreak does not indicate the presence of a contagious disease as it only affected these two herds, which are located several miles apart.

As all of the hogs had been dead and buried for some time, we were unable to get any pieces of the tissues, which might have been of some use in making a positive diagnosis.

Very respectfully,
WM. HENRY KELLY, *V. S.*

December 18, 1896.

Hon. CHAS. A. WIETING, *Commissioner of Agriculture:*

Dear Sir.—According to your instructions I visited Kinderhook, N. Y., on the 14th inst., for the purpose of making an examination of a herd of swine, reported to be suffering from a contagious disease, on the farm of Edward Van Alstyne.

Upon inquiry I found that some two weeks prior to the first having been sick, that he had purchased a registered boar from some distant place. At that time he had two yearling sows; one shoat about six months old, and forty-five small pigs. After losing thirty and to prevent the loss of others he slaughtered the remainder. The pigs were fed on milk, bran and middlings.

I also visited several other farms in the immediate vicinity and found that the spreading of the disease from this to other herds in the neighborhood could not be discovered.

Very respectfully,
WM. HENRY KELLY, *V. S.*

SCRIBA, *December* 17, 1896.

State Board of Health:

Gentlemen.—In the absence of the health officer of the town of Scriba I am directed to notify you of a disease in a flock of swine owned by Frank N. Brown, about two miles east of Oswego, which is very fatal. The swine do not live but a short time and the disease is spreading to other flocks in that neighborhood.

Yours respectfully,
M. C. BURT,
Town Clerk.

December 26, 1896.

Hon. CHAS. A. WIETING, *Commissioner of Agriculture:*

Dear Sir.—According to your instructions in reference to the attached letter I visited Scriba, N. Y., on the 20th inst., to investigate the disease with Prof. V. A. Moore, Pathologist of the New York State Veterinary College.

Upon inquiry we found that about November 1st, Ralph Lord, of the city of Oswego, had one old hog and thirteen shoats (three months old). He has a contract to take the garbage from the Normal School Boarding-house, which is located on the northwest corner of Second and Cayuga streets. The garbage is kept in the yard adjoining in a covered shed, and which is taken from this place three times a week during the summer and twice a week during the colder months. The barrels are changed whenever they are considered unclean and replaced with new ones. There is never any dish water or any other liquid, coffee grounds or tea leaves emptied into this barrel. He fed this garbage to his hogs, and one morning, about November 5th, he noticed one of the hogs did not come up to the trough to eat. He immediately isolated it; also stopped feeding the garbage. Finally, one or two at a time were taken sick, and in the course of three weeks, after the first one was taken sick, all but the old hog had succumbed to the disease.

He then purchased ten small pigs, about six weeks old, of a farmer by the name of John Tovey. These pigs were left on the place of purchase and fed the garbage from the boarding-house, corn middlings and bran. After owning them about four weeks he sold them to a man by the name of Eugene Wart who, on the same day of purchase, drove them to his own place. The next morning he found that one had died during the night, and at the time of investigation all had died except four, which were sick.

While Mr. Lord's hogs were sick and before purchasing others he let Mr. Albert LaFave have the garbage from the Normal School Boarding-house to feed his hogs. At that time he had sold three old hogs and twelve shoats, out of which two old hogs, one of which died the night before investigation, and on which we held the post mortem (for which you will find the report attached), and nine shoats; one other shoat being sick at the time of investigation. As soon as Mr. LaFave noticed the first one sick he immediately isolated the sick ones and built a new pen for the apparently well ones. While Mr. LaFave's hogs were sick (so rumored) he drove two sows to Mr. F. M. Brown's place, of the town of Scriba, to be served with his boar. A few days after this Mr. Brown's pigs broke out and visited Mr. LaFave's place.

Since that time Mr. Brown has lost three shoats, and two are now sick.

Mr. Brown fed green corn, milk and ground barley; no garbage.

While Mr. Wart's hogs were sick Mr. H. O. Brown's hogs broke out and visited his (Wart's) place. After two weeks and at the time of investigation all were sick (three old hogs and nineteen shoats).

The history, post mortem, lesions, bacteriological examination, including animal inoculation with pieces of the affected lungs, proved that it was an outbreak of "swine plague."

The disease seemed to be running its course from farm to farm, as all of the persons are near neighbors.

They were all instructed to remove all litter; bury all dead animals and disinfect the pens with whitewash and crude carbolic acid; replace the old litter with clean straw; sprinkle the pen with air-slacked lime; keep the animals warm and isolate sick from healthy. Furthermore, they were told not to visit their neighbors' farms, where they were free from disease, or permit their neighbors to visit theirs. I also impressed upon them the necessity of keeping the hogs clean and warm.

Very respectfully,

WM. HENRY KELLY, *V. S.*

Pig No. 1. Died December 19th. Examined December 21st. A Chester white female; weight, about 180 pounds. Was said to have lost considerable in weight during sickness. It had been sick for about two weeks. The symptoms were said to be partial paralysis of hind legs, indifference to food and considerable cough, especially when disturbed. The skin over the ventral surface of the body slightly discolored; mouth and tongue normal. The left pleural cavity contained about 500 c. c. of blood-stained serum. Left lung partially collapsed. The cephalic and ventral lobes contained several areas of hepatization. The cephalic half of principal lobe was hepatized; the right lung was completely hepatized. The color was dark and upon section; the interlobular tissues were œdematous. A few of the lobules were hemorrhagic. The bronchioles were free from mucous. There were no pleuratic adhesions. The azygos lobe contained a few areas of hepatization. Otherwise it was normal in appearance. The bronchial glands were enlarged, slightly œdematous and cortex deeply reddened. The pericardium was sprinkled with a large number of ecchymosis. The heart contained a small quantity of thick, tar-like blood. The liver was slightly enlarged, hyperaemic, and the pulp abnormally soft. The spleen was very much enlarged and of dark purplish color. The pulp quite firm. Kidneys, large, cortex thickened; the papilla pale. The capsules were easily removed. The left kidney contained several punctiform hemorrhages. The mucosa of the caecum and color was dark colored, probably due to hyperaemia. The mucosa of the fundus of the stomach was blackish, and on section showed extensive hemorrhages. The lymphatic glands, especially those in the smaller curvature of the stomach, were enlarged and dark colored.

A large number of agar, gelatine and bouillon cultures were made from the various organs. On the following day, December 23d, two rabbits were inoculated subcutaneously with small pieces of the hepatized lung. These were found dead, one in sixteen and the other in eighteen hours. Their organs contained, as shown in stained cover-glass preparations, innumerable swine plague bacteria, and from the cultures, swine plague bacillus were obtained from the blood and liver. The culture media inoculated and the plate cultures made from the lungs contained, on the following day, in nearly every instance, swine plague bacteria only.

(The histological study of the tissues have not been made.)

REPORT OF MICHAEL QUIGLEY.

Hon. CHAS. A. WIETING, *Commissioner of Agriculture:*

Sir.—I respectfully submit a report of the operations of the veterinary division of this Department from January 1, 1896.

On January 3d I was called to Oswego, on the report of an outbreak of hog cholera at that place, and on my arrival went to the premises of Frank Pecor and Fred Wieting; an examination showed that the hogs in both places were affected with this disease. Mr. Pecor had lost twenty-two and Mr. Wieting five. I established a quarantine in both places and gave directions as to the treatment and sanitary measures to be adopted, and the disease died out shortly afterward and did not spread to any other herds. These hogs had been fed on swill or refuse from hotels in the city of Oswego.

On January 15th I went to Arcade, Wyoming county, and on the farm of F. W. Sherwood, near there, I found one cow in his herd affected with tuberculosis. This case was reported at once to the State Board of Health, and the animal was killed shortly afterward by Dr. M. J. Henderson, by their order.

January 16th I went to Williamstown, Oswego county, and examined a herd of cows on the farm of Dennis Healy, four miles east of that place, and found them suffering from anthrax. Five had died from it prior to my arrival. This herd had been fed hay cut from a swampy field, and I think that the disease was caused by spores of the bacillus anthracis in the hay, which still retained their vitality and were taken into the system of the cattle.

January 26th I was called to Cuba, Allegany county, and went from there to Obi, twelve miles south, to examine a herd of cattle on the farm of Riley Otto, which had been reported to this Department as suffering from some contagious disease. I learned that about two weeks prior to my arrival, Mr. Otto had killed a cow for beef and found an abcess in one of the lungs. A thorough physical examination did not reveal any indication of tuberculosis or any other contagious disease in the herd, and they were all in apparent good health.

February 6th I went to the farm of Marshall Mead, in the town of Scriba, four miles south of the city of Oswego, and found his hogs affected with hog cholera. He had lost eighteen prior to my arrival. These hogs had been fed on swill and refuse from the Doolittle hotel, in the city. I established a quarantine on the premises, had the food changed and gave directions as to treatment, and the disease died out there in a short time and did not spread any further.

On February 20th I went to Frankfort, Herkimer county, on a complaint that the herd of milch cows on the farm of Clarence Orrendorf, a local milk dealer, were affected with some contagious disease. I made a thorough investigation of this herd and found them all in good health. The sanitary conditions of the stables were excellent and the food good.

On March 1st I was directed to go to Cattaraugus, Cattaraugus county, and examine the herd of cattle on the premises of Stephen Richardson; I did so, and found several affected with anthrax and one dead from it. Proper treatment and care eradicated the disease in the herd in a short time and no more losses occurred.

On March 4th I went to Mahopac Lake, Putnam county, and examined a herd of milch cows on the farm of Jesse Agor; I had examined this herd previously, in 1895, and found two cows affected with tuberculosis; as the milk was all shipped to New York city, and I had reason to think that I did not see all of the cows at that time, and Mr. Agor was so secretive and very unwilling to give me any information in reference to them, I decided to keep the herd under surveillance, and on this visit I learned that he had killed the affected ones. A physical examination showed that the herd at this time was apparently free from tuberculosis.

On March 8th I was called to Otto, Cattaraugus county, on the complaint of Milton Little, who reported that his herd of cattle was affected with some contagious disease. An examination of this herd showed that they were suffering from a depraved vitiated appetite. They were very poor and emaciated; had eaten and gnawed the barnyard fences, and some were so weak they could hardly get up; an investigation showed they had not been fed any hay during the winter, and received only straw and about one-half the necessary quantity of grain, as the farm was in charge of a tenant who worked it on shares. Mr. Little, at my suggestion, took charge of the cattle himself; plenty of good food and a course of tonics soon produced a change for the better, and

Mr. Little wrote me three weeks later that the herd was getting on finely.

March 14th I went to Dudley's settlement, near Bath, Steuben county, and examined a herd of cows on the farm of Philip M. Little; I found two cows in the herd affected with tuberculosis. These cows were at once reported to the State Board of Health.

On March 22d I examined the cattle on the farm of Benjamin Schoffer, near West Leyden, Lewis county, and found one cow affected with anthrax and one dead from it. This herd had been fed on "breaks" or ferns cut in a swampy piece of ground, and no doubt the spores were taken into the system in that manner; anthrax had prevailed to a large extent in this region in the fall of 1895.

April 30th I went to Goshen, Orange county, and examined the herd of Henry Bacon at that place; I found one cow affected with tuberculosis and reported the case to the State Board of Health at once.

On May 13th I went to Parish, Oswego county, and examined the herd of cows on the farm of W. O. Seaman, and found two badly affected with tuberculosis. The cases were reported to the State Board of Health at once.

On May 22d I went to Chestertown, Warren county, on a complaint from that place that the cows on the farm of Enos Brown, a local milk dealer, were affected with some disease; I made a thorough examination of this herd but failed to find any contagious disease. The cows were all in excellent health.

June 12th I examined the cows on the farm of Edward Gill at Pratt's Hollow, Madison county, and found that seven of them had died from anthrax; the balance of the herd were well; no other outbreak of the disease occurred in the neighborhood.

June 23d I went to West Valley, Cattaraugus county, to investigate some complaints as to sickness among cattle in that locality, and in company with Dr. M. J. Henderson, V. S., examined the cows on the farm of Henry Kruse; also a number of other herds in that vicinity; near Colden, Erie county, we found them nearly all suffering from depraved and vitiated appetites and in poor condition. Dr. Henderson's report in this matter will cover the particulars in these cases. In fact, I found quite a large number of herds in the western part of the State affected in this same manner; it was owing to the shortness of the hay crop the preceding summer and the practice of feeding poor and mouldy straw, with short rations of grain and no hay.

On July 10th I went to Warsaw, Wyoming county, and examined the herd of cattle on the premises of Henry Smith, near Orangeville; also, several other herds in that vicinity, and found them all suffering from malnutrition and muscular stiffness.

August 5th, in company with V. C. Beebe, assistant commissioner, I examined the herd of cows on the farm of Peter Dillon, near Darien, Genesee county, and found them affected with malnutrition and muscular stiffness.

On August 19th I was directed to go to Kenoza Lake, Sullivan county, and investigate an outbreak of anthrax in that vicinity, which I did, and found that William Mousthrop, at that place, had lost three cows from it; the balance were not affected at that time. I then drove to Fosterdale, in the town of Cochecton, and found the herd of John Van Bergan affected and five cows dead; another farmer named Peter Keesler had lost seven from anthrax. I established a quarantine on all the affected farms, had the cattle removed to high ground and gave directions as to treatment and care. The disease did not spread any further and shortly afterward died out in that locality.

On August 21st I went to Greene, Chenango county, and examined the herd of cows on the premises of A. R. Whittemore. I found that anthrax had broken out in the herd and seven cows had died from it; the balance were not affected at that time, as they had been removed to high ground and given proper treatment.

On September 3d an outbreak of anthrax was reported on the farm of L. Kirtland, near Randolph, Cattaraugus county; on my arrival there I found that one cow had died from it. The herd was pasturing on low wet ground on the border of the Conewango swamp; I had them removed at once to the upland and given proper treatment; no more trouble occurred on the farm from the disease.

September 10th I was directed to proceed to New Haven, Oswego county, and investigate an alleged disease among the milch cows of G. T. Gardener, of that place, who was selling his milk to a cheese factory near by. I made a thorough examination of the herd, consisting of seventeen milch cows, and found them all in good condition and good health and no disease among them. The only unusual circumstance in the case, as Mr. Gardener informed me, was that at times the milk became ropy or stringy. I then made an examination of the drinking water in the fields and found that in one place the water came through a black muck soil, which might produce the fungi causing ropy or stringy milk. I directed him to fence that place in, so as to keep the cattle from drinking there, and have heard of no complaint from the herd since.

On September 22d I went to Honeoye, Ontario county, and examined a herd of hogs owned by John Quick of that place; I found a large number of them affected with hog cholera and forty-five had already died from it. It appeared that Mr. Quick had gone to Buffalo and bought 110 hogs at the stock yards in that city, and immediately after getting them to Honeoye the disease broke out among them. There appears to be no doubt but that they were already infected when he got them at Buffalo, as the public press shortly afterward stated that the city board of health of Buffalo had taken action in the matter and caused a large number to be slaughtered there on account of hog cholera. It did not spread beyond Mr. Quick's premises and I have heard nothing from him since.

October 13th I was directed to go to Penn Yan and investigate an outbreak of hog cholera in that locality. On my arrival at the farm of Charles Whittaker, in the town of Benton, I found that he had lost a large number of hogs from this cause. I then examined the hogs on several farms in that vicinity and found a number affected with it. An investigation showed that the disease originally started about one year ago among some hogs that were kept outside of Penn Yan and fed on swill and refuse from one of the hotels there. The disease lingered for some time, and later on some of this lot was sold and moved to a new place and finally died or were killed. The past summer a lot of new and healthy young pigs were bought and placed in this last infected pen, and at once hog cholera broke out among them and spread to several other places. I quarantined every place at which I found it and gave directions as to care and treatment, and when I went back over the same ground on November the 24th the disease had entirely disappeared.

On October 18th I was directed to proceed to Rome, N. Y., and met Dr. V. A. Moore, of Cornell Veterinary College, and Dr. W. H. Kelly, of Albany; on my arrival there I found an outbreak of what appeared to be hog cholera among a large number of hogs at the county house near the city. Drs. Moore and Kelly made a post mortem on several pigs and their reports in the matter will fully explain the nature of the disease.

During the past year anthrax has not prevailed to any great extent in this State. There were only seven sporadic outbreaks in localities far apart that was brought to the attention of this Department, and the losses in these cases were very light; in no case did the disease spread to other herds by infection. This is a gratifying improvement over 1895, when anthrax broke out in ten different counties and the losses in the aggregate were severe.

Respectfully yours,

MICHAEL QUIGLEY.

REPORT OF M. J. HENDERSON.

Hon. CHAS. A. WIETING, *Commissioner of Agriculture:*

Dear Sir.—I beg leave to report that on March 25th I was directed to proceed to the farm of Rollin H. Smith, situated six miles north of the town of Little Falls, in Herkimer county, to investigate an alleged contagious disease said to exist among his herd of dairy cattle. I made a thorough physical examination of the herd, which contained thirty cows and one bull, and found three of the cows suffering from tuberculosis. The whole herd were in a very poor condition, some of them being very much emaciated, owing to the fact that they were fed only once a day and a very small allowance of grain, and received no hay, the hay crop being short the summer previous; Mr. Smith had ordered his tenant to keep the hay and give the cattle straw instead, which straw was of a very poor quality, owing to the fact that it was mouldy and unfit for food and, consequently, indigestible, which caused the poor physical condition of the cattle. I ordered the cows that were tuberculous to be isolated until such time as the State Board of Health would take action in the matter.

On June 24th I was directed by Mr. M. Quigley to meet him at West Valley, Cattaraugus county, to examine the herd of cattle owned by Henry Kruse, and also a number of other herds in that vicinity which had been reported as suffering from a contagious disease. I first examined the herd of Henry Kruse and found several of them suffering from myositis which, in my opinion, based upon the history of the cases, was of saprophytic origin. I arrived at this conclusion from the fact that the cows had been fed upon straw that had become mouldy. The symptoms presented were first those of indigestion with tynpanities, followed by great stiffness of the muscles of locomotion, each movement being accompanied by great pain. I did not consider the disease contagious, but that it was simply the result of feeding on improper food. We then examined nine other herds in the vicinity and found several in each herd affected in the same manner as Mr. Kruse's. I gave directions in all cases as to treatment and prevention, and also the proper care of the animals in the future. The condition of the herds that I examined was brought about by reason of a short hay crop in 1895 and, owing to the high price of hay, the owners attempted to tide over the winter by feeding straw, which was of a poor quality. The cattle first showed symptoms of the trouble in April. This practice obtained to a large extent in that section of the State, and a great many herds were affected in the same manner, as I was informed by Mr. Quigley.

On August 21st I visited the farm of Mr. Clark Cole, in the town of Richland, Oswego county, and examined his herd of cows and found one of them suffering from pulmonary anthrax. Mr. Cole informed me that he had lost nine head from the same disease within two weeks. I looked over the pasture where the cattle were confined and found a place where they were in the habit of drinking, which contained stagnant water filled with decomposed animal and vegetable matter and no doubt contained the bacillus anthracis which caused the disease. I directed Mr. Cole to have the place drained, and also gave directions as to treating the cattle.

On October 29th I visited the premises of Eugene Kranzer, at Mendon, Monroe county, and found one hog suffering from hog cholera. Mr. Kranzer's drove originally consisted of 31 hogs; he lost 26, each hog presenting the same symptoms. The disease was conveyed to Mr. Kranzer's drove from 21 head that he purchased at the Buffalo stock yards, all of which succumbed to the malady shortly after arriving at his pens. He informed me that he had never lost a pig from disease prior to the introduction of the Buffalo hogs.

All of which is very respectfully submitted.

M. J. HENDERSON,
State Veterinarian.

AGRICULTURAL FAIRS.

The moneys appropriated by the Legislature for the promotion of agriculture was $87,213.55. Sixty thousand dollars of this amount was appropriated by chapter 807, Laws of 1895, and $27,213.55 by chapter 221, Laws of 1896. The latter amount was the moneys derived from the tax upon racing associations.

Following are the sums received by the agricultural societies from the above-named moneys:

New York State Agricultural Society	$22,000	00
Western New York Agricultural Society	2,000	00
Hornellsville Farmers' Club	2,000	00
Cambridge Valley Agricultural Society and Stock Breeders' Association	2,000	00
Altamont Driving Park and Agricultural Association	670	50
Allegany County Agricultural Society	488	87
Broome County Agricultural Society	692	32
Cattaraugus County Agricultural Society	529	46
Cayuga County Agricultural Society	386	26
Chautauqua County Agricultural Society	801	69
Chemung County Agricultural Society	714	98
Chenango County Agricultural Society	652	62
Clinton County Agricultural Society	845	60
Columbia County Agricultural Society	706	73
Cortland County Agricultural Society	577	90
Delaware County Agricultural Society	709	19
Dutchess County Agricultural Society	997	11
Erie County Agricultural Society	1,073	65
Essex County Agricultural Society	547	79
Franklin County Agricultural Society	837	71
Fulton County Agricultural Society	1,022	27
Genesee County Agricultural Society	756	34
Greene County Agricultural Society	621	45
Herkimer County Agricultural Society	596	95
Jefferson County Agricultural Society	1,031	54
Lewis County Agricultural Society	648	60
Livingston County Agricultural Society	512	26
Montgomery County Agricultural Society	669	50
Brookfield Agricultural Society	618	20
American Institute	500	15
Niagara County Agricultural Society	648	65
Oneida County Agricultural Society	916	13
Phoenix Union Agricultural Society	519	27
Ontario County Agricultural Society	879	03

Orange County Agricultural Society	$1,591 94
Orleans County Agricultural Society	704 20
Oswego County Agricultural Society	596 45
Otsego County Agricultural Society	801 74
Putnam County Agricultural Society	510 54
Queens County Agricultural Society	1,705 76
Agricultural and Liberal Arts Society of Rensselaer County	709 12
Rockland County Agricultural Society	527 41
St. Lawrence County Agricultural Society	792 95
Saratoga County Agricultural Society	744 82
Schoharie County Agricultural Society	750 70
Schuyler County Agricultural Society	547 80
Seneca County Agricultural Society	573 15
Steuben County Agricultural Society	979 60
Suffolk County Agricultural Society	915 76
Sullivan County Agricultural Society	756 82
Tioga County Agricultural Society	598 67
Tompkins County Agricultural Society	914 59
Ulster County Agricultural Society	708 05
Washington County Agricultural Society	1,262 04
Wayne County Agricultural Society	531 17
Westchester County Agricultural Society	1,958 17
Wyoming County Agricultural Society	504 13
Yates County Agricultural Society	590 18
Cuba Fair Society	473 61
Wellsville Fair Association	511 55
Binghamton Industrial Exposition	882 81
Franklinville Driving Park and Agricultural Association	439 36
Afton Driving Park and Agricultural Association	543 39
Riverside Agricultural Society	569 72
Columbia Agricultural and Horticultural Association	527 62
Catskill Mountain Agricultural Society	405 49
Delaware Valley Agricultural Society	792 91

Union Agricultural Society of Lancaster, N. Y.	$344 44
Cape Vincent Agricultural Society..............	339 25
Hemlock Lake Union Agricultural Society........	382 32
Mount Morris Horse Show and Fair Association...	400 34
Brockport Union Agricultural Society............	717 45
Boonville Agricultural Society..................	430 70
Gorham Agricultural Society....................	361 84
Naples Union Agricultural Society..............	358 91
Oswego Falls Agricultural Society..............	740 20
Sandy Creek, Richland, Orwell and Boylston Agricultural Society	610 17
Butternut Valley Agricultural and Horticultural Society	827 50
Oneonta Union Agricultural Society.............	656 48
Richfield Springs Agricultural Society...........	425 10
Schenevus Valley Agricultural Society...........	360 85
Rockland County Industrial Association..........	342 99
Gouverneur Agricultural and Mechanical Society..	527 89
Rackett Valley and St. Regis Valley Agricultural Society	762 45
Cobleskill Agricultural Society..................	711 28
Prattsburg Union Agricultural Society...........	342 82
Southern Steuben Agricultural Society...........	339 12
Northern Tioga Agricultural Society.............	424 71
Dryden Agricultural Society.....................	481 03
Union Agricultural and Horticultural Society of Trumansburg	358 83
Palmyra Union Agricultural Society.............	525 31
Silver Lake Agricultural and Horticultural Society,	435 36
Dundee Fair Association.......................	410 27

DISEASE AMONG BEES.

Sections 80 and 81 of article 5 of the Agricultural Law provide for the prevention of disease among bees; providing that upon the receipt by the Commissioner of Agriculture of a petition of five or more actual beekeepers of the county, setting forth the fact that foul brood exists there among bees, to prevent the spread of such disease and eradicate the same.

There have been no complaints of the kind made to me since I have been Commissioner of Agriculture, and I understand that none have been made to the Department during the last fiscal year.

BLACK KNOT OR YELLOWS.

Sections 82 and 83, the last of which is amended by chapter 184 of the Laws of 1895, provide that when the Commissioner of Agriculture knows or has reason to believe that the contagious diseases known as the yellows and black knot, exist or are supposed to exist, or that there is danger of its introduction in any town or city of the State, he shall, on the request of the town board of such town or the common council of such city forthwith employ a competent freeholder of such town or city as his agent; such freeholder to be recommended by such aforesaid town board or common council for the purpose of exterminating said disease.

I have had recommendations for appointments of such agents as follows:

ONTARIO COUNTY, }
TOWN OF GORHAM, } *ss.:*

We, the undersigned, comprising the town board of the town of Gorham, county aforesaid, and State of New York, being satisfied that the diseases known as black knot and yellows exist in the town aforesaid, do hereby recommend the appointment of Lewis Lincoln to act as agent in said town.

J. K. WASHBURN,
Supervisor.
H. C. WOOD,
Justice of the Peace.
L. ALDEN,
Justice of the Peace.
WM. B. HARRIS,
Justice of the Peace.
T. BENTON PIERCE,
Town Clerk.

AFFIDAVIT OF TOWN CLERK.

COUNTY OF ONTARIO, }
TOWN OF GORHAM, } *ss.:*

T. Benton Pierce, being duly sworn, says that he is the town clerk of the town of Gorham, county aforesaid, and State of New York; and that the aforesaid is a true copy of the original resolution passed by said town board on the 20th day of January, 1896, at the town clerk's office of said town, and that the signatures attached thereto are true and correct.

T. BENTON PIERCE,
Town Clerk.

Subscribed and sworn to before me }
this 20th day of January, 1896. }

VIRGIL SMITH,
Notary Public, Ontario County, New York.

To the Commissioner of Agriculture, Albany, N. Y.:

Dear Sir.—At a meeting of the common council of the city of Oswego, N. Y., held on the 22d of June, 1896, the following resolution was adopted:

By Ald. SHUFELT:

Resolved, That this Common Council does hereby recommend Thomas H. Butler for the office of Agent of the State Depatment of Agriculture, in accordance with chapter 134 of the Laws of 1895; and the city clerk is further authorized to transmit to the Commissioner of Agriculture at Albany, duly certified, under the seal of the city, a copy of this resolution.

Adopted unanimously.

I certify that the foregoing resolution was adopted by the Common Council of the city of Oswego, N. Y., at a meeting held June 22, 1896.

FRED D. WHEELER,
City Clerk.

OSWEGO, N. Y., *June* 29, 1896.

CHAS. A. WIETING, *Commissioner of Agriculture, Albany, N. Y.:*

Dear Sir.— Yours of the 25th at hand and contents noted; in replying would say:

I enclose to you in this letter the petition under which the appointment was asked by the Common Council; the same is signed by reputable citizens of this city, and is evidence that the disease known as the black knot exists in this city. If this is not all that is necessary, let me know and I will fix up such papers as you may require.

Yours truly,
FRED D. WHEELER,
City Clerk.

June 1, 1896.

CHAS. A. WIETING, *Commissioner of Agriculture, Albany, N. Y.:*

Dear Sir.—We, the undersigned, freeholders of the city of Oswego, county of Oswego, State of New York, hereby present this, our petition, respectfully requesting you to appoint an agent for the purposes and pursuant to the provisions of sections 82 and 83 of chapter 338 of the Laws of 1893.

The disease known as the black knot exists among and is affecting the fruit trees in this city.

We respectfully suggest the name of Mr. Thomas H. Butler of this town for your consideration, hoping that you may see fit to appoint him as such agent.

MERRICK STOWELL,
Oswego County Judge.
H. H. LYMAN.
JOHN A. PLACE.
GEO. B. SLOAN.
J. T. MOTT.
J. H. COOPER.
A. A. WELLINGTON.
J. D. WIGGENS.
THOMAS MOORE.

OSWEGO COUNTY, }
CITY OF OSWEGO, } *ss.:*

Thomas H. Butler, being duly sworn, says that he is a freeholder in the city of Oswego, county of Oswego, State of New York, and to his knowledge the disease of black knot exists among the trees in the above-named town as set forth in the foregoing petition. THOMAS H. BUTLER.

Subscribed and sworn to before me }
this 12th day of June, 1896. }

THOMAS MOORE,
Notary Public.

To the Honorable the Commissioner of Agriculture of the State of New York:

The undersigned, being the Town Board of the town of Milo, county of Yates, N. Y., being informed that the disease known as yellows or black knot exists in this town, we believe that proper and thorough means looking to its prevention and extermination should at once be taken.

Now, therefore, we, the said Town Board, being this day in session as such, do hereby recommend that William W. Aspell, a resident of the town of Milo, county of Yates, N. Y., and a proper and competent person for the office of Agent of the Commissioner of Agriculture, as provided by section 83 of the Agricultural Law, as amended by chapter 134 of the Laws of 1895 — he being a freeholder — and we, as such Board, do hereby request his appointment as such agent for this town.

Dated Town of Milo, Yates county, N. Y., August 25, 1896.

JOSHUA TITUS,
Supervisor.
JOHN BROWN,
Town Clerk.
WM. H. FRIRO,
Justice.
J. ST. JOHNS,
Justice.
G. A. BIGGER,
Justice.
D. B. ASPEN,
Justice.

TOWN OF NEW HAVEN, N. Y.

The town of New Haven request the appointment of S. A. Newell, of this town, to the position of Black Knot Agent of this town, by a resolution of the Town Board on this day.

Dated September 1, 1896.

F. V. STEVENS,
Supervisor.
B. T. ARMSTRONG,
Town Clerk.
H. B. ALLEN,
Justice of the Peace.
J. E. BAKER,
Justice of the Peace.
N. W. PARSONS,
Justice of the Peace.

The above is a true copy of a resolution adopted September 1, 1896.

B. T. ARMSTRONG,
Town Clerk.

TOWN OF NEW HAVEN, N. Y.

We, comprising a majority of the Town Board, have positive knowledge that the disease known as black knot exists in this town, and should be attended to at once.

F. V. STEVENS,
Supervisor.
B. T. ARMSTRONG,
Town Clerk.
H. B. ALLEN,
Justice of the Peace.
N. H. PARSONS,
Justice of the Peace.
J. E. BAKER,
Justice of the Peace.

In accordance with the foregoing requests, I have appointed the following persons:

Lewis Lincoln, Gorham, Ontario county, N. Y.
Thomas H. Butler, Oswego, Oswego county, N. Y.
William W. Aspell, Milo, Yates county, N. Y.
S. A. Newell, New Haven, Oswego county, N. Y.

PROSECUTIONS.

Chapter 821 of the Laws of 1895, which took effect upon May 29th of that year, provides that the Attorney-General shall have charge and control of all the legal business of the departments and bureaus of the State, etc.

In accordance with the provisions of that statute, all cases made by this Department have since been referred to that officer.

During the fiscal year ending September 30th, the following cases have been made within the State and referred to the Attorney-General for prosecution, and he has usually assigned local counsel to try the cases. The cases referred to that officer during the last year are as follows:

Cases Referred to the Attorney-General From October 1, 1895, to October 1, 1896.

OCTOBER 21, 1895.

MILK.

People *v.* W. H. Loomis (No. 2304).
People *v.* Charles E. Clark (No. 617).
People *v.* Charles McCumsey (No. 616).
People *v.* Nelson Cross (No. 615).
People *v.* John Scott (No. 614).
People *v.* William P. Miller (No. 618).
People *v.* P. J. Miller (No. 618).
People *v.* Thomas Bergen (No. 4085).
People *v.* R. B. Roberts (No. 620).
People *v.* E. Roberts (No. 613).
People *v.* Emma and Vernice Eaton (No. 610).

People *v.* Charles Brown (No. 2501).
People *v.* James S. Brown (No. 611).
People *v.* R. R. Morris (No. 2314).
People *v.* Ann Foley (No. 2317).
People *v.* S. Montgomery (No. 2303).
People *v.* Joseph H. Stevens (No. 1630).
People *v.* Charles B. Holmes (No. 1631).
People *v.* Abram Jordan (No. 1632).
People *v.* Alfred Moody (No. 1633).
People *v.* Andrew Schiller (No. 1634).
People *v.* Lewis J. Gravel (No. 1635).
People *v.* Thomas Keenan (No. 1636).
People *v.* Gracien Patchen (No. 2202).
People *v.* Michael Farden (No. 2203).
People *v.* James Jordan (No. 2201).
People *v.* Joseph Conkey (No. 2204).
People *v.* Mrs. L. R. Fitch (No. 1613).
People *v.* Charles Todt (No. 1615).
People *v.* J. C. Rowe (No. 270).

VINEGAR.

People *v.* Henry Kock.
People *v.* Dick Nahrmann.
People *v.* James Barker.
People *v.* Fred. Wilkering.
People *v.* Henry Dickert.
People *v.* William H. Koring.
People *v.* Adam B. Rohrback.
People *v.* Bernard Burmeister.
People *v.* Conrad Miller.
People *v.* Henry P. Schaff (No. 1941).
People *v.* Conrad Weis (No. 1928).
People *v.* John Mollan (No. 1756).
People *v.* Henry Ditcher (No. 1894).

OLEOMARGARINE.

People *v.* Ernest Buchanan (No. 1065).
People *v.* John Mahoney (No. 1060).

People *v.* Matthew O. Farrel (No. 1059).
People *v.* Thomas McCarty (No. 1058).
People *v.* Joseph Meyer (No. 986).
People *v.* Hartford Maginness (No. 1110).
People *v.* John Doscher (No. 1061).

CONDENSED MILK.

People *v.* James Smith (B. B.).
People *v.* William H. Cavanaugh (E. E.).
People *v.* Michael McGinn (H. H.).
People *v.* Homer Wolcott (C. C.).
People *v.* John Keane (D. D.).
People *v.* Patrick Hart (G. G.).
People *v.* William Brown (F. F.).

NOVEMBER 13, 1895.

MILK.

People *v.* H. A. Skinner.

NOVEMBER 15, 1895.

MILK.

People *v.* Robert McHugh (No. 2205).
People *v.* O'Brien (No. 2206).
People *v.* Fred Schumacher (No. 1835).
People *v.* John Eberhard (No. 1842).
People *v.* John Steglmein (No. 1849).
People *v.* Emanuel Osman (No. 1851).
People *v.* Anton Kruszka (No. 1858).
People *v.* Benjamin Adolff (No. 1862).
People *v.* Charles E. Napier (No. 1863).
People *v.* Michael Hosel (No. 1869).
People *v.* Joseph Exerer (No. 1877).
People *v.* L. Adams (No. 1830).
People *v.* Louis Welt (No. 1882).

DECEMBER 5, 1895.

MILK.

People *v.* Jacob Jaletts (No. 1032).
People *v.* Mrs. M. Forburgh (No. 4011).
People *v.* Howard Andrews (No. 1099).
People *v.* Fred. H. Fuller (No. 1563).
People *v.* R. D. V. Koor (No. 1568).
People *v.* Alanson Ostrander (No. 1582).
People *v.* W. Grandasky (No. 2027).
People *v.* W. H. Schwartz (No. 2028).
People *v.* William Ewing (No. 2029).
People *v.* William Smith (No. 2030).
People *v.* John Windland (No. 2031).
People *v.* R. S. Hall (No. 2054).
People *v.* H. Phillips (No. 2060).
People *v.* ——— Helmes (No. 2062).
People *v.* E. J. Dickson (No. 2063).
People *v.* S. A. Haskell (No. 2065).
People *v.* Henry Voff (No. 2068).
People *v.* F. C. Snail (No. 2071).
People *v.* H. Gilbraith (No. 2079).
People *v.* John Johnson (No. 2080).
People *v.* J. B. Terrance (No. 2081).
People *v.* William Chaffin (No. 2082).
People *v.* Charles Detman (No. 2083).
People *v.* D. C. Matteson (No. 2085).
People *v.* M. Matteson (No. 2087).
People *v.* H. Collins (No. 2414).
People *v.* Follett & Quaint (No. 2413).
People *v.* Fred Nelson (No. 2416).
People *v.* Charles Pumbley (No. 867).
People *v.* W. Victor (No. 1585).
People *v.* W. H. & Lewis Jenkins (Nos. 1582, 293).
People *v.* Jacob McGraw (No. 1582).
People *v.* Augustus Schultz (No. 1585).
People *v.* Albert Pritchard (No. 1588).

People *v.* Jacob McGraw (No. 1620).
People *v.* W. J. Brogle (No. 2602).
People *v.* G. Wyncoop (No. 911).

JANUARY 14, 1896.

VINEGAR.

People *v.* John Maloney (No. 1021).
People *v.* Patrick Shannon (No. 1020).

OLEOMARGARINE.

People *v.* John Drake (No. 1096).
People *v.* Charles Cording (No. 1073).
People *v.* Josephine Lorvenvein (No. 1130).
People *v.* Sophia Muller (No. 1145).
People *v.* Fritz A. Selje (No. 1063).
People *v.* Henry N. Kuever (No. 1147).
People *v.* Fred Brickwedde (No. 975).
People *v.* John Otten (No. 1062).
People *v.* August Wenske (special).
People *v.* Mary Holliday (No. 1070).
People *v.* Luigi Burgio (No. 1133).
People *v.* Henry Rohde (No. 1076).
People *v.* Jacob Kuntz (No. 1132).
People *v.* Herman O. Muller (No. 1095).
People *v.* Chris L. Jung (No. 1069).
People *v.* G. Carione (No. 1004).

JANUARY 16, 1896.

VINEGAR.

People *v.* Eli Wemple.
People *v.* C. O. Cross.
People *v.* M. Anibal.

MILK.

People *v.* Edwin Myers (No. 2519).
People *v.* Dewitt Helmer (No. 2326).

People *v.* Fred Ruloff (No. 1836).
People *v.* Albert Colby (No. 3336).
People *v.* William Eddy (No. 1697).
People *v.* Adolph Hutteman (No. 1688).
People *v.* J. N. Fleishman (No. 1702).
People *v.* Charles G. Hall (No. 1696).
People *v.* M. A. Michael (No. 1710).

JANUARY 21, 1896.

OLEOMARGARINE.

People *v.* Peter Bramsen (No. 1066).
People *v.* John Otten (No. 1064).

JANUARY 22, 1896.

MILK.

People *v.* J. W. Kayes (No. 82).
People *v.* W. Bollenbach (No. 87).
People *v.* W. E. Harcourt (No. 927).
People *v.* William H. Morrison (No. 932).
People *v.* Robert Arbuckle (No. 953).
People *v.* William P. Richardson (No. 934).
People *v.* William N. Arnout (No. 935).
People *v.* Joseph Johnson (No. 1111).
People *v.* Mrs. Milton Sands (No. 1113).
People *v.* W. W. Dean (No. 1114).
People *v.* Casper Schaffer (No. 1117).
People *v.* C. C. Dolson (No. 1119).
People *v.* A. L. Jones (No. 1956).

JANUARY 23, 1896.

MILK.

People *v.* H. Terrel (No. 1713).

JANUARY 30, 1896.

People *v.* Ezra Albro (No. 1417).

FEBRUARY 4, 1896.

MILK.

People *v.* Theodore Janner (No. 1891).
People *v.* George L. Ebersol (No. 2116).
People *v.* Andrew Carver (No. 2120).
People *v.* Adam Johns (No. 2121).
People *v.* William C. Minschurer (No. 2123).
People *v.* Fred Rudey (No. 2134).
People *v.* John Herl (No. 2140).
People *v.* George Ruhnd (No. 2142).
People *v.* Louis Miller (No. 2147).
People *v.* Charles J. Gillman (No. 2148).
People *v.* Jacob F. Grapp (No. 2153).

FEBRUARY 6, 1896.

OLEOMARGARINE.

People *v.* Frederick Bossert (No. 699).
People *v.* Thomas Halpin (No. 976).
People *v.* Domenico Spennilli (No. 1071).
People *v.* Henry Werner (No. 1088).
People *v.* Margaret Romkey (No. 1039).
People *v.* Margaret Byrnes (No. 1093).
People *v.* John Burrows (No. 1128).
People *v.* Robert Colvin (No. 1129).
People *v.* Edward Hanrahan (No. 1152).
People *v.* Mary Jane Van Pyke (No. 1152).
People *v.* Charles Cornwell (No. 1160).
People *v.* Charles Trensch (No. 1163).

MILK.

People *v.* Edmond Holden (M).
People *v.* Fred Bohman (No. 35).
People *v.* Timothy Moynihan (No. 1018).
People *v.* Frederick A. Doscher (No. 1022).
People *v.* Andrew Bau (No. 1030).
People *v.* John Segelken (No. 1031).

FEBRUARY 7, 1896.

MILK.

People *v.* Anthony Kehrer (No. 2604).

MARCH 4, 1896.

OLEOMARGARINE.

People *v.* Francis J. Barry (No. 554).
People *v.* John Jansen (No. 973).
People *v.* Herman F. Weber (No. 1046).
People *v.* Philip Holz (No. 1072).
People *v.* John Doe (No. 1165).
People *v.* Arthur Graham (No. 1161).
People *v.* John Wattach (No. 1164).
People *v.* Christopher Bose (No. 1165).
People *v.* Charles A. Fuller (No. 1167).
People *v.* Stephen H. Mills (No. 1168).
People *v.* John Hamitsch (No. 1177).
People *v.* John Van De Born (No. 1178).
People *v.* Lena Erdmann (No. 1180).
People *v.* Herman F. Weber (No. 1131).
People *v.* Edwin A. Haywood (No. 1182).
People *v.* Charles Graff (No. 1184).
People *v.* John O'Rourke (No. 1186).
People *v.* Albert French (No. 1189).
People *v.* Cord Meyer (No. 1190).
People *v.* William H. Jones (No. 1191).
People *v.* William H. Kerr (No. 1194).
People *v.* Charles Schwartze (No. 1197).
People *v.* Thomas B. Gale (No. 1100).
People *v.* James Maloy (No. 1201).

MARCH 19, 1896.

MILK.

People *v.* Henry Gottlieb (No. 1082).
People *v.* Alfred Sidman (No. 1086).
People *v.* Charles McLaughlin (No. 1156).

People *v.* Elizabeth Mich (No. 1158).
People *v.* Richard Kuhlhoff (No. 1174).
People *v.* John S. McTernan (No. 1199).

MARCH 24, 1896.

OLEOMARGARINE.

People *v.* John Doe (No. 1195).

MILK.

People *v.* Andrew C. Bennett (No. 1729).
People *v.* Andrew C. Bennett (No. 1730).
People *v.* John Welker (No. 1587).

APRIL 9, 1896.

OLEOMARGARINE.

People *v.* Fred Plum (No. 1172).
People *v.* Albert Trensch (No. 1198).
People *v.* William Comer (No. 1183).
People *v.* John Doe (No. 1410).

APRIL 17, 1896.

People *v.* Theodore Jaworsky (No. 1075).
People *v.* William Pasch (No. 1175).
People *v.* Bernard M. Folkers (No. 1499).
People *v.* Rebecca Keilty (No. 1416).
People *v.* Andrew Mack (No. 1418).

MAY 12, 1896.

MILK.

People *v.* John Clapp (No. 2616).
People *v.* William Weisheit (No. 2617).
People *v.* Frank E. Lansing (No. 2527).
People *v.* Simeon Bennett (No. 2619).

MAY 13, 1896.

MILK.

People *v.* S. K. Pixley (No. 2729).
People *v.* E. A. Gosenn (No. 2715).
People *v.* Romaine Depew (No. 2712).
People *v.* Burt Wiedener (No. 2704).
People *v.* Oliver J. Sprague (Nos. 2701, 1739).

MAY 14, 1896.

MILK.

People *v.* H. H. Van Valkenburgh (No. 2315).
People *v.* Acel Pope (No. 2518).

JUNE 11, 1896.

OLEOMARGARINE.

People *v.* John F. McCarthy (No. 1407).
People *v.* John Backer (No. 1130).
People *v.* John Ross (No. 1084).
People *v.* John W. Lamon (No. 1425).
People *v.* Arthur Hallett (No. 1426).
People *v.* George Zweifel (No. 1415).
People *v.* Jesse S. Palmer (No. 1411).

MILK.

People *v.* Samuel Kamske (No. 2781).
People *v.* John Karzenowski (No. 2197).
People *v.* Louis Roth (No. 2196).
People *v.* John D. Campbell (No. 2755).
People *v.* Peter Roll (No. 2193).
People *v.* Turner & Loker (No. 2132).
People *v.* Thomas Homer (No. 2162).
People *v.* Adolph Frels (No. 2200).
People *v.* H. J. Dignan (No. 2731).

JUNE 15, 1896.

VINEGAR.

People *v.* J. F. Pfisper (No. 355).

MILK.

People *v.* John Kreuger (No. 2758).
People *v.* Mathew Matter (No. 2773).
People *v.* John Rautenstrauch (No. 2764).
People *v.* John Follett (No. 2192).
People *v.* James Armstrong (No. 2763).

JUNE 17, 1896.

VINEGAR.

People *v.* J. F. Pfister (No. 354).

JUNE 25, 1896.

MILK.

People *v.* Virgil Kling (No. 2802).
People *v.* H. H. Van Valkenburgh (No. 2628).
People *v.* Coonradt Miller (No. 2801).
People *v.* James A. Hayhouse (No. 2424).

JUNE 29, 1896.

MILK.

People *v.* Charles Mathews (No. 2807).

JULY 1, 1896.

MILK.

People *v.* Moses Herse (No. 4015).

JULY 7, 1896.

MILK.

People *v.* Benjamin F. Saxton (No. 762).
People *v.* Thomas J. Quinn (No. 1896).

VINEGAR.

People *v.* Nathaniel A. Griffin (No. 1023).
People *v.* George V. Terry (No. 1034).
People *v.* Maxwell T. Griffing (No. 1025).
People *v.* John B. Young (No. 1036).
People *v.* John S. Havens (No. 1049).
People *v.* James H. Mills (No. 1043).

OLEOMARGARINE.

People *v.* John Vette (No. 1077).
People *v.* Henry Ziesenitz (No. 1023).
People *v.* Wing Sing (No. 1234).
People *v.* John Vette (Nos. 1429, 1430).

VINEGAR.

People *v.* Prussing Vinegar Company (No. 699).

MILK.

People *v.* Fred Bauerfield (No. 2787).
People *v.* Cary & Tonsdale (No. 2792).
People *v.* James Mulligan (No. 2794).

People *v.* John Lukrch (No. 2798).
People *v.* Emile Luthringer (No. 2800).
People *v.* Louisa Mair (No. 3106).
People *v.* ——— Rothenberger (No. 3107).
People *v.* Grant Stockweather (No. 1597).
People *v.* Harrison Colton (No. 1596).

JULY 10, 1896.

MILK.

People *v.* Charles E. Woodward (No. 2736).
People *v.* Fred H. Yates (No. 2749).

JULY 16, 1896.

MILK.

People *v.* T. J. Wilson (Nos. 924, 925).
People *v.* Marie Neuenschwander (No. 926).
People *v.* Gilbert Tillotson (No. 937).
People *v.* John McGarry (No. 1121).
People *v.* Ira Bundy (No. 1122).
People *v.* J. B. & W. T. Riley (No. 1959).
People *v.* B. C. Ross (No. 1968).
People *v.* George L. Graves (No. 2327).

JULY 21, 1896.

MILK.

People *v.* Theodore Jenner (No. 3112).
People *v.* David Weinholz (No. 3115).
People *v.* George Bellum (No. 3116).
People *v.* Daniel Goodman (No. 3128).
People *v.* Frank W. Lee (No. 3125).
People *v.* Henry Berghtold (No. 3126).
People *v.* Jacob Kruger (No. 3131).
People *v.* Charles Snyder (No. 3132).
People *v.* Stephen Jenison (No. 3135).
People *v.* George Wolcox (No. 3137).
People *v.* Michael Swerdloff (No. 3138).
People *v.* M. Nelson (No. 3134).
People *v.* John C. Bliemiester (No. 3143).

JULY 21, 1896.

MILK.

People *v.* John Gottschalk (No. 3358).
People *v.* John T. May (No. 3359).

JULY 29, 1896.

MILK.

People *v.* ——— Werger (No. 2804).
People *v.* ——— Christie (No. 2807).
People *v.* ——— Lighthart (No. 2808).

AUGUST 4, 1896.

People *v.* Leon D. Van Patten.

AUGUST 7, 1896.

MILK.

People *v.* Thomas R. Wright (No. 1951).
People *v.* Robert D. Mottler (No. 1980).
People *v.* Peter McCollough (No. 1989).

OLEOMARGARINE.

People *v.* John C. Raven (No. 1427).

AUGUST 10, 1896.

MILK.

People *v.* Fred W. Miles (No. 3145).
People *v.* Jacob Bender (No. 3059).
People *v.* William Castle (No. 3064).
People *v.* Michael Miller (No. 3077).
People *v.* Herman Spangles (No. 3078).
People *v.* Jacob Farington (No. 3079).
People *v.* Fred Repschlager (No. 1381).

AUGUST 18, 1896.

MILK.

People *v.* Henry Crea (No. 2209).
People *v.* Charles Curtis (No. 2210).

AUGUST 19, 1896.

MILK.

People *v.* Bennett Flasphaler (Nos. 1600, 1607).
People *v.* Lewis Peterson (No. 1614).

AUGUST 24, 1896.

MILK.

People *v.* C. N. Loucks (No. 2211).
People *v.* William C. A. Witt (No. 747).
People *v.* Empire State Dairy Company (No. 1926).
People *v.* Austin C. Bull (No. 1970).
People *v.* Charles W. Wheatley (No. 1279).
People *v.* William H. Nelson (No. 1986).
People *v.* ———Wehrmann (No. 1987).
People *v.* William Bauer (No. 3502).

AUGUST 31, 1896.

People *v.* Noah D. Bolton (No. 2810).
People *v.* Thomas Delaney (No. 2811).
People *v.* Elbert Moses (No. 2812).
People *v.* Elwin Green (No. 2813).

SEPTEMBER 2, 1896.

MILK.

People *v.* Charles Hlawatsch (No. 1995).
People *v.* Thomas Whright (No. 1996).
People *v.* William J. Gilkinson (No. 1997).
People *v.* Henry Koch (No. 1998).
People *v.* Henry Schoenberg (No. 3501).
People *v.* Andrew Siemon (No. 3504).
People *v.* John Jooss (No. 3564).

SEPTEMBER 9, 1896.

MILK.

People *v.* Patrick Regan (No. 3357).
People *v.* ——— Fenton (No. 3403).

SEPTEMBER 15, 1896.

MILK.

People *v.* John Le Clair (No. 2212).

SEPTEMBER 19, 1896.

MILK.

People *v.* Allen French (No. 3453).
People *v.* John Joyce (No. 3455).
People *v.* George Bowen (No. 3621).
People *v.* John Schieder (No. 3620).
People *v.* George Herold (No. 3615).
People *v.* Henry Reisenberg (No. 3613).
People *v.* Albert H. Buffurn (No. 3603).
People *v.* John Wagner (No. 3148).
People *v.* Jacob May (No. 3111).
People *v.* Charles Hedtke (No. 3096).
People *v.* Anton Zeitler (No. 3883).
People *v.* William Corcoran (No. 3951).
People *v.* Alphonso Cason (No. 2504).
People *v.* Eugene Potts (No. 2503).
People *v.* John Sanders (No. 893).
People *v.* Humphrey Jones (No. 2328).

SEPTEMBER 25, 1896.

MILK.

People *v.* C. H. Horst (No. 3203).
People *v.* M. J. Wehle (No. 3206).

SEPTEMBER 26, 1896.

MILK.

People *v.* Freeland Frost (No. 2035).
People *v.* Alonzo Ransom (No. 3314).
People *v.* Samuel D. Kaw (No. 3220).

OCTOBER 21, 1896.

MILK.

People *v.* H. Davenport (No. 573).
People *v.* C. M. Spencer (No. 3953).
People *v.* Frederick Morrill (No. 3212).
People *v.* Julius Goldstein (No. 3243).

EVIDENCE.

In getting evidence for the cases which are being tried, there is one question that is raised quite frequently to which I shall respectfully call your attention, namely:

Our agents in examining milk have found samples on wagons which proved to be skimmed milk. There is nothing, however, on the wagon to indicate that it is being sold within the exception of the statute, namely, that it is being sold as and for skimmed milk. Sometimes the vendor will state that he is selling it for skimmed milk at the time sample is taken, and sometimes he will say nothing about it until the time of trial comes when he puts in an answer stating the facts that he was selling it for skimmed milk within the exception of the statute.

As the law now stands, the vendor may sell skimmed milk, except in New York and Kings county, if he sells it as and for such. But the Court of Appeals has said in the case of People *v.* West, 106 N. Y. 293, that the fact is peculiarly within the knowledge of the defendant and is, therefore, matter of affirmative defense. If this rule is to be followed, it would seem to place the matter in the situation that our agents must always take samples of skimmed milk when found upon wagons, unless there is proof to them that is positive or nearly so that it is plain to all purchasers that it has been, and that it is, sold as and for such, and put the defendant, even if he so sold it as skimmed milk, to the cost of and inconvenience of litigation to prove the fact.

It would seem to me that some legislation might be had prescribing a particular method and way in which skimmed milk should be sold, so that it would not be necessary in all cases to litigate the question in order to be reasonably assured of all the facts.

DETAILED STATEMENT.

The following is a detailed statement of the moneys paid for services and expenses of the commissioner, assistant commissioner, experts, agents, chemists and counsel during the fiscal year ending September 30, 1896:

DETAILED STATEMENT OF THE SERVICES AND EXPENSES FOR THE YEAR 1896, OF THE COMMISSIONER, ASSISTANT COMMISSIONERS, EXPERTS, AGENTS, CHEMISTS, COUNSEL, ETC.

PAYEE.	Position held.	Date of check.	Compensation.	Expenses.
Geo. L Flanders	Assistant commissioner	October 12	....	*$243 01
J. H. Brown	do	17	$100 00	20 76
J. P. Clark	do	17	100 00	56 22
John H. Foley	do	17	100 00	10 98
C. D. Moore	do	17	100 00	18 98
P. H. Parker	do	17	100 00	69 79
J. M. Robinson	do	17	100 00	26 46
F. D. Tuthill	do	17	100 00	31 00
B. F Van Valkenburgh	do	17	208 33	11 93
Geo. J. Zillig	do	17	100 00	16 62
C. H. Allen	Agent	17	40 00	19 66
E. A. Ayres	Cheese instructor	17	100 00	41 23
Geo. D. Babcock	Agent	17	78 00	66 40
Grove Barnum	do	17	75 00	17 82
Walter J. Bennett	do	17	75 00	50 64
James Boice	do	17	75 00	62 44
Chas. Burke	do	17	100 00	17 41
Arch. D. Clark	do	17	100 00	50 30
W. J. Corbett	do	17	75 00	10 69
Jno. J. Coughlin	do	17	100 00	19 75
A. S. Delano	do	17	100 00	16 83
M. Dugan	do	17	75 00	74 65

* Hotels and fares, $25.22; printing, stationery, postage, etc., $217.79.

John R. Earl	do	17	100 00	9 66
M. Galligan	do	17	75 00	15 13
Frank E. Geise	do	17	90 00	12 09
W. W. Hall	Cheese instructor	17	100 00	78 99
P. C. Harp	Agent	17	75 00	59 38
W. B. Howard	do	17	75 00	49 22
P. H. Kelly	do	17	75 00	40 52
John McGuire	do	17	100 00	48 80
A. J McSweeney	do	17	75 00	45 42
W. W. Meeteer	do	17	100 00	53 70
M. T. Morgan	Cheese instructor	17	100 00	95 76
C. J. Morganstern	Agent	17	75 00	12 52
Chas. F Nash	do	17	75 00	64 09
John T. Norton	do	17	100 00	49 40
R. H. Palmer	do	17	75 00	24 89
Wm. B. Reading	do	17	75 00	12 14
H. A. Rees	Cheese instructor	17	100 00	51 89
Hoffman Ruger	Agent	17	75 00	10 77
L. E. Scrafford	do	17	100 00	15 96
N. Van Horne	do	17	75 00	84 07
C. B. Wakefield	do	17	40 00	46 70
E. S. Wilson	do	17	100 00	49 70
Geo. W. Cavanaugh	Chemist	17	6 00	50
Theodore Deecke	do	17	30 00	....
Jos. F. Geisler	do	17	46 00	25
E. G. Love	do	17	12 50	....
W. E. McDuffie	do	17	35 00	....
J. F. McGregory	do	17	6 00	....
John A. Miller	do	17	100 00	7 25
Wm. Manlius Smith	do	17	71 00	2 36
Stillwell & Gladding	do	17	9 25	50

DETAILED STATEMENT, ETC.—(*Continued*).

PAYEE.	Position held.	Date of check.		Compensation.	Expenses.
J. C. Willson	Chemist	October	17	$50 00	....
H. M. Eldredge	Counsel		17	450 00	$14 10
Geo. Bernhard	Agent		17	100 00	23 55
Jos. M. Quigley	do		17	100 00	23 36
S. A. Lattimore	Chemist		17	10 00	....
E. J. Wheeler	do		17	120 00	....
Geo. B. Fellows	Agent		29	100 00	....
Fred. C. Schraub	Commissioner		30	333 33	....
Geo. L. Flanders	Assistant commissioner		30	166 66	....
C. H. Allen	Agent		30	40 00	1 85
Chas. Burke	do		30	100 00	38 91
J. M. Hutchings	do		30	50 00	....
V. P. D. Lee	do		30	100 00	....
Simon Nussbaum	do		30	100 00	....
Chas. S. Kellogg	do		31	75 00	47 95
Geo. B. Fellows	do		31	....	15 62
J. H. Brown	Assistant commissioner	November	19	100 00	33 06
J. P. Clark	do		19	100 00	44 84
Geo. L. Flanders	do		19	....	*238 71
John H. Foley	do		19	100 00	33 61
C. D. Moore	do		19	100 00	17 56
P. H. Parker	do		19	100 00	68 06
J. M. Robinson	do		19	100 00	45 49
F. D. Tuthill	do		19	100 00	31 80

* Printing, stationery, postage, etc.

B. F. Van Valkenburgh	do	19	208 33	8 39
Geo. J. Zillig	do	19	100 00	17 42
E. A. Ayers	Cheese instructor	19	100 00	79 56
Geo. D. Babcock	Agent	19	81 00	64 53
Grove Barnum	do	19	75 00	42 41
W. J. Bennett	do	19	75 00	70 41
Geo. Bernhard	do	19	100 00	36 16
James Boice	do	19	75 00	73 83
Arch. D. Clark	do	19	100 00	56 45
John J. Coughlin	do	19	100 00	14 24
W. J. Corbett	do	19	75 00	7 88
A. S. Delano	do	19	100 00	25 71
M. Dugan	do	19	75 00	70 84
John R. Earl	do	19	100 00	11 80
M. Galligan	do	19	75 00	16 07
Frank E. Geise	do	19	90 00	14 49
W. W. Hall	Cheese instructor	19	100 00	67 54
P. C. Harp	Agent	19	75 00	70 23
W. B. Howard	do	19	75 00	56 02
Chas. S. Kellogg	do	19	75 00	68 40
P. H. Kelly	do	19	75 00	37 87
John McGuire	do	19	100 00	58 70
A. J. McSweeney	do	19	75 00	66 89
W. W. Meeteer	do	19	100 00	45 10
M. T. Morgan	Cheese instructor	19	100 00	100 93
C. J. Morganstern	Agent	19	75 00	37 39
Chas. F. Nash	do	19	75 00	69 41
John T. Norton	do	19	100 00	54 85
R. H. Palmer	do	19	75 00	31 67
Jos. M. Quigley	do	19	100 00	38 31
Wm. B. Reading	do	19	75 00	9 90

DETAILED STATEMENT, ETC.— (*Continued*).

PAYEE.	Position held.	Date of check.	Compensation.	Expenses.
H. A. Rees	Cheese instructor	November 19	$100 00	$58 34
Hoffman Ruger	Agent	19	75 00	14 72
L. E. Scrafford	do	19	100 00	....
N. Van Horne	do	19	75 00	23 87
C. B. Wakefield	do	19	40 00	40 00
E. S. Wilson	do	19	100 00	56 90
Geo. W. Cavanaugh	Chemist	19	24 00	1 25
Joseph F. Geisler	do	19	152 50	1 88
S. A. Lattimore	do	19	20 00	....
E. G. Love	do	19	16 25	....
John A. Miller	do	19	100 00	....
Wm. M. Smith	do	19	20 00	8 10
Stillwell & Gladding	do	19	20 70	50
E. J. Wheeler	do	19	125 00	....
J. C. Willson	do	19	50 00	....
Fred C. Schraub	Commissioner	26	333 33	....
George L. Flanders	Assistant commissioner	26	166 66	....
George B. Fellows	Agent	26	100 00	....
C H. Allen	do	December 11	40 00	1 10
J. M. Hutchings	do	11	50 00	....
V. P. D. Lee	do	11	100 00	....
Simon Nussbaum	do	11	100 00	....
J. H. Brown	Assistant commissioner	16	100 00	11 31
J. P. Clark	do	16	100 00	29 02
J. H. Foley	do	16	100 00	9 76

P. H. Parker	do	16	100 00	41 37
J. M. Robinson	do	16	100 00	39 79
F. D. Tuthill	do	16	100 00	34 05
B. F. Van Valkenburgh	do	16	208 33	68 59
George J. Zillig	do	16	100 00	8 36
E. A. Ayers	Cheese instructor	16	100 00	32 09
George D. Babcock	Agent	16	75 00	62 37
Grove Barnum	do	16	75 00	19 80
W. J. Bennett	do	16	75 00	66 88
George Bernhard	do	16	100 00	82 38
James Boice	do	16	75 00	54 67
Charles Burke	do	16	100 00	12 52
Arch D. Clark	do	16	100 00	46 45
W. J. Corbett	do	16	75 00	8 36
John J. Coughlin	do	16	100 00	11 41
A. S. Delano	do	16	100 00	23 11
M. Dugan	do	16	75 00	69 77
John R. Earl	do	16	100 00	12 83
M. Galligan	do	16	75 00	14 28
Frank E. Geise	do	16	90 00	13 94
W. W. Hall	Cheese instructor	16	100 00	43 75
P. C. Harp	Agent	16	75 00	48 06
W. B. Howard	do	16	75 00	37 84
C. S. Kellogg	do	16	75 00	77 66
P. H. Kelly	do	16	75 00	44 30
John McGuire	do	16	100 00	54 50
A. J. McSweeney	do	16	75 00	54 01
W. W. Meeteer	do	16	100 00	45 10
M. T. Morgan	Cheese instructor	16	100 00	72 05
Chas. J. Morganstern	Agent	16	75 00	25 31
Chas. F. Nash	do	16	75 00	66 80

DETAILED STATEMENT, ETC.—(*Continued*).

PAYEE.	Position held.	Date of check.		Compensation.	Expenses.
John T. Norton	Agent	December	16	$100 00	$56 40
R. H. Palmer	do		16	75 00	76 76
Jos. M. Quigley	do		16	100 00	41 70
Wm. B. Reading	do		16	75 00	7 70
H. A. Rees	Cheese instructor		16	100 00	32 58
Hoffman Ruger	Agent		16	75 00	20 26
L. E. Scrafford	do		16	100 00	51 78
N. Van Horne	do		16	75 00	34 98
C. B. Wakefield	do		16	40 00	15 15
E. S. Wilson	do		16	100 00	51 20
Geo. W. Cavanaugh	Chemist		16	6 00	50
Theodore Deecke	do		16	40 00	6 04
Jos. F. Geisler	do		16	63 75	51
S. A. Lattimore	do		16	25 00	....
E. G. Love	do		16	72 25	75
J. F. McGregory	do		16	24 00	....
John A. Miller	do		16	100 00	5 35
Wm. M Smith	do		16	18 00	76
Stillwell & Gladding	do		16	9 37	75
E. J Wheeler	do		16	125 00	....
J. C. Willson	do		16	50 00	....
C. D. Moore	Assistant commissioner		16	100 00	11 73
Geo. B. Fellows	Agent		16	100 00	....
Fred. C. Schraub	Commissioner	January	1	333 34	....
Geo. L. Flanders	Assistant commissioner		1	166 68	....

C. H. Allen	Agent	3	40 00	1 75
Chas. Burke	do	3	100 00	16 71
J. M. Hutchings	do	3	50 00	....
V. P. D. Lee	do	3	100 00	....
Simon Nussbaum	do	3	100 00	....
T. Miller Reed	Counsel	6	80 00	11 97
J. H. Brown	Assistant commissioner	17	100 00	30 57
J. P. Clark	do	17	100 00	8 20
Geo. L. Flanders	do	17	....	*275 50
John H. Foley	do	17	100 00	14 60
C. D. Moore	do	17	100 00	8 79
P. H. Parker	do	17	100 00	59 01
J. M. Robinson	do	17	100 00	28 51
F. D. Tuthill	do	17	100 00	40 30
B. F. Van Valkenburgh	do	17	208 33	14 66
Geo J. Zillig	do	17	100 00	6 68
E. A. Ayers	Cheese instructor	17	100 00	29 70
Geo. D. Babcock	Agent	17	100 00	6 93
Grove Barnum	do	17	75 00	24 10
Geo. Bernhard	do	17	100 00	26 47
W. J. Bennett	do	17	75 00	59 07
James Boice	do	17	75 00	51 08
Arch D. Clark	do	17	100 00	57 20
W. J. Corbett	do	17	75 00	10 99
John J. Coughlin	do	17	100 00	12 11
A. S. Delano	do	17	100 00	20 31
M. Dugan	do	17	75 00	71 56
John R. Earl	do	17	100 00	9 06
Michael Galligan	do	17	75 00	15 50
Frank E. Geise	do	17	90 00	8 67

Hotels and fares, $19.52; printing, stationery, postage, etc., $255.98.

DETAILED STATEMENT, ETC.—(*Continued*).

PAYEE.	Position held.	Date of check.	Compensation.	Expenses.
P. C. Harp	Agent	January 17	$75 00	$54 77
W. W. Hall	Cheese instructor	17	100 00	52 93
W. B. Howard	Agent	17	75 00	33 85
P. H. Kelly	do	17	75 00	11 28
Chas. S. Kellogg	do	17	75 00	49 78
W. W. Meeteer	do	17	100 00	55 10
A. J. McSweeney	do	17	75 00	52 60
John McGuire	do	17	100 00	61 05
M. T. Morgan	Cheese instructor	17	100 00	90 58
C. J. Morganstern	Agent	17	75 00	20 63
Chas. F. Nash	do	17	75 00	60 69
John T. Norton	do	17	100 00	54 90
R. H. Palmer	do	17	75 00	34 17
Jos. M. Quigley	do	17	100 00	21 96
Wm. B. Reading	do	17	75 00	13 14
H. A. Rees	Cheese instructor	17	100 00	24 28
Hoffman Ruger	Agent	17	75 00	14 94
L. E. Scrafford	do	17	100 00	39 31
N. Van Horne	do	17	75 00	23 48
C. B. Wakefield	do	17	40 00	11 28
E. S. Wilson	do	17	100 00	57 95
Geo. W. Cavanaugh	Chemist	17	10 00	3 75
Jos. F. Geisler	do	17	97 00	1 50
S. A. Lattimore	do	17	75 00	....
E. G. Love	do	17	85 00	1 25

John A. Miller	do		17	100 00	....
Wm. M. Smith	do		17	10 00	1 89
Stillwell & Gladding	do		17	24 38	25
Stillwell & Gladding	do		17	75 70	1 25
E. J. Wheeler	do		17	125 00	....
J. C. Willson	do		17	50 00	3 50
Merrell, Ryel & Merrell	Counsel		17	120 00	16 97
Wm. E. Webster	do		17	95 00	11 08
Michael Quigley	Veterinarian		17	250 00	170 78
Fred. C. Schraub	Commissioner		17	....	233 28
Fred. C. Schraub	do	February	1	333 33	....
Geo. L. Flanders	Assistant commissioner		1	166 66	....
Geo. B. Fellows	Agent		1	100 00	....
E. J. Wheeler	Chemist		5	125 00	....
V. P. D. Lee.	Agent		5	100 00	....
Simon Nusbaum	do		5	100 00	....
J. M. Hutchings	do		5	50 00	....
C. H. Allen	do		5	40 00	5 00
Chas. Burke	do		5	100 00	21 18
J. H. Brown	Assistant commissioner		17	100 00	43 84
J. H. Foley	do		17	100 00	9 01
C. D. Moore	do		17	100 00	10 04
P. H. Parker	do		17	100 00	56 55
J. M. Robinson	do		17	100 00	42 99
F. D. Tuthill.	do		17	100 00	34 30
B. F. Van Valkenburgh	do		17	208 33	31 46
Geo. J. Zillig	do		17	100 00	29 09
E. A. Ayers	Cheese instructor		17	100 00	25 43
Geo. D. Babcock	Agent		17	75 00	38 70
Grove Barnum	do		17	75 00	23 67
W. J. Bennett	do		17	75 00	67 25

DETAILED STATEMENT, ETC.— (*Continued*).

PAYEE.	Position held.	Date of check.	Compensation.	Expenses.
Geo. Bernhard	Agent	February 17	$100 00	$28 03
James Boice	do	17	75 00	52 52
Arch. D. Clark	do	17	100 00	57 85
W. J. Corbett	do	17	75 00	19 93
John J. Coughlin	do	17	100 00	20 10
A. S. Delano	do	17	100 00	23 63
M. Dugan	do	17	75 00	57 23
John R. Earl	do	17	100 00	13 95
M. Galligan	do	17	75 00	14 40
Frank E. Geise	do	17	90 00	12 00
P. C. Harp	do	17	75 00	54 42
W. B. Howard	do	17	75 00	36 68
Chas. S. Kellogg	do	17	75 00	35 27
P. H. Kelly	do	17	75 00	18 39
John McGuire	do	17	100 00	57 85
A. J. McSweeney	do	17	75 00	56 04
W. W. Meeteer	do	17	100 00	56 85
M. T. Morgan	Cheese instructor	17	100 00	79 00
C. J. Morganstern	Agent	17	75 00	20 46
Chas. F. Nash	do	17	75 00	54 26
John T. Norton	do	17	100 00	58 35
R. H. Palmer	do	17	75 00	58 57
Jos. M. Quigley	do	17	100 00	27 73
Wm. B. Reading	do	17	75 00	11 59
H. A. Rees	Cheese instructor	17	100 00	19 69

Hoffman Ruger	Agent		17	75 00	14 46
L. E. Scrafford	do		17	100 00	36 23
C. B. Wakefield	do		17	40 00	19 52
N. Van Horne	do		17	75 00	....
E. S. Wilson	do		17	100 00	55 95
Jos. F. Geisler	Chemist		17	56 00	1 00
S. A. Lattimore	do		17	107 50	3 00
E. G. Love	do		17	21 00	75
John A. Miller	do		17	100 00	13 75
Stillwell & Gladding	do		17	22 00	....
J. C. Willson	do		17	50 00	....
Geo. L. Flanders	Assistant commissioner		24	....	*164 75
W. & G. W. Youmans	Counsel		27	70 00	....
E. J. Wheeler	Chemist		28	125 00	....
Simon Nussbaum	Agent		28	100 00	....
J. M. Hutchings	do		28	50 00	....
Geo. B. Fellows	do		28	....	5 45
J. P. Clark	Assistant commissioner		28	100 00	60 86
Fred. C. Schraub	Commissioner		29	333 33	....
Geo. L. Flanders	Assistant commissioner		29	166 66	....
Geo. B. Fellows	Agent		29	100 00	....
Fred. C. Schraub	Commissioner	March	13	....	186 10
J. H. Brown	Assistant commissioner		16	100 00	30 66
J. P. Clark	do		16	100 00	14 80
J. H. Foley	do		16	100 00	14 61
C. D Moore	do		16	100 00	6 54
P. H. Parker	do		16	100 00	36 85
J. M Robinson	do		16	100 00	28 42
B. F. Van Valkenburgh	do		16	208 33	18 23
Geo. J. Zillig	do		16	100 00	28 03

* Printing, stationery, postage, etc.

DETAILED STATEMENT, ETC — (*Continued*).

PAYEE.	Position held.	Date of check.	Compensation.	Expenses.
C. H. Allen	Agent	March 16	$40 00	$2 20
E. A. Ayers	Cheese instructor	16	100 00	18 95
Geo. D. Babcock	Agent	16	75 00	37 81
Grove Barnum	do	16	75 00	24 30
Geo. Bernhard	do	16	100 00	41 12
W. J. Bennett	do	16	75 00	72 36
James Boice	do	16	75 00	47 39
Chas. Burke	do	16	100 00	9 93
Arch. D. Clark	do	16	100 00	62 90
John J. Coughlin	do	16	100 00	19 54
W. J. Corbett	do	16	75 00	3 77
A. S. Delano	do	16	100 00	9 06
M. Dugan	do	16	75 00	58 54
John R. Earl	do	16	100 00	11 93
M. Galligan	do	16	75 00	13 42
Frank E. Geise	do	16	90 00	12 30
P. C. Harp	do	16	75 00	32 27
W. B. Howard	do	16	75 00	23 91
Chas. S. Kellogg	do	16	75 00	29 41
P. H. Kelly	do	16	75 00	10 48
John McGuire	do	16	100 00	66 85
A. J. McSweeney	do	16	75 00	27 77
W. W. Meeteer	do	16	100 00	58 25
M. T. Morgan	Cheese instructor	16	100 00	74 77
C. J. Morganstern	Agent	16	75 00	16 25

Chas. F. Nash	do		16	75 00	47 10
John T. Norton	do		16	100 00	63 75
Jos. M. Quigley	do		16	100 00	54 15
Wm. B. Reading	do		16	75 00	14 92
H. A. Rees	Cheese instructor		16	100 00	25 46
Hoffman Ruger	Agent		16	75 00	6 29
L. E. Scrafford	do		16	100 00	22 64
N. Van Horne	do		16	75 00	15 58
C. B. Wakefield	do		16	40 00	4 90
E. S. Wilson	do		16	100 00	57 95
George W. Cavanaugh	Chemist		16	26 00	7 70
Joseph F. Geisler	do		16	112 50	1 25
S. A. Lattimore	do		16	35 00	....
E. G. Love	do		16	79 00	....
John A. Miller	do		16	100 00	....
Stillwell & Gladding	do		16	50 20	1 70
J. C. Willson	do		16	50 00	....
Mary A. Coman, adminis. W. W. Meeteer	Agent		16	15 00	....
John C. Harrigan	Counsel		16	25 00	....
Isaac H. Maynard	do		16	100 00	....
Daniel Van Cott	do		16	40 60	....
Geo. L. Flanders	Assistant commissioner		26	......	*95 57
F. D. Tuthill	do		26	100 00	33 66
R. H. Palmer	Agent		26	75 00	30 60
Joseph F. Geisler	Chemist		26	8 00	13
V. P. D. Lee	Agent		19	100 00	....
Fred. C. Schraub	Commissioner	April	1	333 33	....
Geo. L. Flanders	Assistant commissioner		1	166 68	....
Geo. B. Fellows	Agent		1	100 00	....

* Printing, stationery, postage, etc.

DETAILED STATEMENT, ETC.— (*Continued*).

PAYEE.	Position held.	Date of check.		Compensation.	Expenses.
C. H. Allen	Agent	April	3	$40 00	$0 75
Charles Burke	do		3	100 00	11 42
J. M. Hutchings	do		3	50 00	....
V. D. P. Lee	do		3	100 00	....
Simon Nussbaum	do		3	100 00	....
E. J. Wheeler	Chemist		3	125 00	....
Fred. C. Schraub	Commissioner		14	....	200 78
J. H. Brown	Assistant commissioner		14	100 00	34 92
J. P. Clark	do		14	100 00	11 41
J. H. Foley	do		14	100 00	11 96
C. D. Moore	do		14	100 00	12 56
P. H. Parker	do		14	100 00	60 18
J. M. Robinson	do		14	100 00	28 88
F. D. Tuthill	do		14	100 00	30 30
B. F. Van Valkenburgh	do		14	208 33	56 89
George J. Zillig	do		14	100 00	17 71
E. A. Ayers	Cheese instructor		14	100 00	22 40
George D. Babcock	Agent		14	75 00	29 38
Grove Barnum	do		14	75 00	26 30
W. J. Bennett	do		14	75 00	56 87
George Bernhard	do		14	100 00	57 23
James Boice	do		14	75 00	49 26
Arch D. Clark	do		14	100 00	66 45
John J. Coughlin	do		14	100 00	17 82
W. J. Corbett	do		14	80 00	9 17

A S. Delano	do	14	100 00	14 34
M. Dugan	do	14	75 00	60 47
John R. Earl	do	14	100 00	10 33
M. Galligan	do	14	75 00	14 63
Frank E. Geise	do	14	90 00	12 93
W. W. Hall	Cheese instructor	14	100 00	22 09
P. C. Harp	Agent	14	75 00	45 18
W. B. Howard	do	14	75 00	27 68
C. S. Kellogg	do	14	75 00	44 68
P. H. Kelly	do	14	75 00	12 68
John McGuire	do	14	100 00	67 35
A. J. McSweeney	do	14	75 00	40 55
W. W. Meeteer	do	14	100 00	65 65
M. T. Morgan	Cheese instructor	14	100 00	96 23
C. J. Morganstern	Agent	14	75 00	25 25
Chas. F. Nash	do	14	75 00	55 15
John T. Norton	do	14	100 00	66 95
R. H. Palmer	do	14	75 00	42 62
Jos. M. Quigley	do	14	100 00	57 25
Wm. B. Reading	do	14	75 00	10 67
H. A. Rees	Cheese instructor	14	100 00	18 29
Hoffman Ruger	Agent	14	75 00	12 09
L. E. Scrafford	do	14	100 00	31 97
N. Van Horne	do	14	75 00	17 66
C. B. Wakefield	do	14	40 00	....
E. S. Wilson	do	14	100 00	68 15
Jos. F. Geisler	Chemist	14	103 25	75
S. A. Lattimore	do	14	95 00	....
E. G. Love	do	14	42 00	75
John A. Miller	do	14	100 00	....
Stillwell & Gladding	do	14	63 12	2 50

DETAILED STATEMENT, ETC.— (*Continued*).

PAYEE.	Position held.	Date of check.		Compensation.	Expenses.
J. C. Willson	Chemist	April	14	$50 00	....
M. J. Henderson	Veterinarian		14	75 00	$19 70
M. Quigley	do		14	500 00	163 10
New York Stencil Works	Cheese brands		14	35 00	....
Geo. L. Flanders	Assistant commissioner		21	....	*385 14
Chas. D. Thomas	Counsel		23	200 00	207 88
Eliz. H. Du Bois for T. C. Du Bois, dec.	Agent		25	15 00	15 39
Fred. C. Schraub	Commissioner		30	....	47 80
Fred. C. Schraub	do		30	333 33	....
C. H. Allen	Agent		30	40 00	15 70
Chas. Burke	do		30	100 00	30 95
J. M. Hutchings	do		30	50 00	....
V. P. D. Lee	do		30	100 00	....
Simon Nussbaum	do		30	100 00	....
E. J. Wheeler	Chemist		30	125 00	....
Geo. L. Flanders	Assistant commissioner	May	1	166 66	....
Geo. B. Fellows	Agent		1	100 00	....
Geo. L. Flanders	Assistant commissioner		6	....	*318 07
J. H. Brown	do		12	100 00	40 37
J. P. Clark	do		12	100 00	4 45
J. H. Foley	do		12	100 00	16 91
J. M. Robinson	do		12	100 00	22 78
F. D. Tuthill	do		12	100 00	28 35
B. F. Van Valkenburgh	do		12	208 33	36 34

* Printing, stationery, postage, etc.

Geo. J. Zillig	do	12	100 00	14 71
Geo. D. Babcock	Agent	12	75 00	40 27
Grove Barnum	do	12	75 00	15 02
W. J. Bennett	do	12	75 00	74 13
Geo. Bernhard	do	12	100 00	50 59
James Boice	do	12	75 00	64 11
Arch D. Clark	do	12	100 00	54 00
W. J. Corbett	do	12	75 00	7 44
John J. Coughlin	do	12	100 00	19 70
A. S. Delano	do	12	100 00	19 25
M. Dugan	do	12	75 00	60 26
John R. Earl	do	12	100 00	12 67
M. Galligan	do	12	75 00	14 65
Frank E Geise	do	12	90 00	12 31
W. W. Hall	Cheese instructor	12	100 00	51 77
P. C. Harp	Agent	12	75 00	62 58
W. B. Howard	do	12	75 00	29 54
P. H. Kelly	do	12	75 00	13 31
John McGuire	do	12	100 00	52 40
A. J. McSweeney	do	12	75 00	49 18
W. W. Meeteer	do	12	100 00	54 85
M T. Morgan	Cheese instructor	12	100 00	77 46
C. J. Morganstern	Agent	12	75 00	13 29
C. F. Nash	do	12	75 00	61 79
John T. Norton	do	12	100 00	53 00
R. H. Palmer	do	12	75 00	34 85
Jos. M. Quigley	do	12	100 00	58 35
Hoffman Ruger	do	12	75 00	17 03
L. E. Scrafford	do	12	100 00	26 23
N. Van Horne	do	12	75 00	40 70
C. B. Wakefield	do	12	40 00	7 17

DETAILED STATEMENT, ETC.—(*Continued*).

PAYEE.	Position held.	Date of check.		Compensation.	Expenses.
E. S. Wilson	Agent	May	12	$100 00	$55 95
Jos. F. Geisler	Chemist		12	111 12	75
S. A. Lattimore	do		12	75 00	....
E. G. Love	do		12	27 00	25
John A. Miller	do		12	100 00	....
Stillwell & Gladding	do		12	91 37	2 05
J. C. Willson	do		12	50 00	14 14
P. H. Parker	Assistant commissioner		12	100 00	62 94
C. D. Moore	do		20	100 00	10 83
E. A. Ayers	Agent		20	100 00	43 28
C. S. Kellogg	do		20	75 00	52 92
Wm. B. Reading	do		20	75 00	10 03
H. A. Rees	Cheese instructor		20	100 00	13 94
Wm. M. Smith	Chemist		20	6 00	56
New York Stencil Works	Cheese brands		20	35 00	....
J. M. Hutchings	Agent		28	65 00	....
V. P. D. Lee	do		28	100 00	....
Simon Nussbaum	do		28	100 00	....
C. A. Wieting	Commissioner		28	333 33	....
Geo. L. Flanders	Assistant commissioner		28	166 66	....
Geo. B. Fellows	Agent		28	100 00	....
J. H. Brown	Assistant commissioner	June	15	50 00	17 58
J. P. Clark	do		15	100 00	13 71
Geo. L. Flanders	do		15	....	*441 09

* Hotels and fares, $15 75; printing, stationery, postage, etc., $425 34.

John H. Foley	do	15	100 00	30 53
C. D. Moore	do	15	100 00	4 54
P. H. Parker	do	15	100 00	57 34
J. M. Robinson	do	15	100 00	23 40
F. D. Tuthill	do	15	100 00	28 90
Asa L. Twitchell	do	15	50 00	53 79
B. F. Van Valkenburgh	do	15	208 33	27 52
Geo. J. Zillig	do	15	50 00	13 39
E. A. Ayres	Cheese instructor	15	100 00	45 84
C. H. Allen	Agent	15	40 00	13 15
Geo. D Babcock	do	15	75 00	47 78
Grove Barnum	do	15	75 00	24 44
W. J. Bennett	do	15	75 00	59 49
Geo. Bernhard	do	15	100 00	48 85
James Boice	do	15	75 00	64 15
Chas. Burke	do	15	100 00	40 81
W. J. Corbett	do	15	75 00	8 37
John J. Coughlin	do	15	100 00	13 94
Arch. D. Clark	do	15	100 00	40 90
A. S. Delano	do	15	100 00	18 45
M. Dugan	do	15	75 00	72 98
John R. Earl	do	15	100 00	11 92
Geo. B. Fellows	do	15	....	15 71
M. Galligan	do	15	75 00	13 26
Frank E. Geise	do	15	90 00	12 18
W. W. Hall	Cheese instructor	15	100 00	59 12
P. C. Harp	Agent	15	75 00	56 10
W. B. Howard	do	15	75 00	20 32
P. H. Kelly	do	15	75 00	14 59
C. S. Kellogg	do	15	75 00	50·59
John McGuire	do	15	100 00	46 80

DETAILED STATEMENT, ETC.— (*Continued*).

PAYEE.	Position held.	Date of check.	Compensation.	Expenses.
A. J. McSweeney	Agent	June 15	$75 00	$50 17
W. W. Meeteer	do	15	100 00	52 00
M. T. Morgan	Cheese instructor	15	100 00	70 05
C. J. Morganstern	Agent	15	75 00	20 11
Chas. F. Nash	do	15	75 00	64 85
John T. Norton	do	15	100 00	45 20
R. H. Palmer	do	15	75 00	49 59
J. M. Quigley	do	15	100 00	47 77
W. B. Reading	do	15	75 00	6 88
H. A. Rees	Cheese instructor	15	100 00	46 50
Hoffman Ruger	Agent	15	75 00	15 83
L. E. Scrafford	do	15	100 00	24 82
N. Van Horne	do	15	75 00	64 72
C. B. Wakefield	do	15	40 00	11 95
E. S. Wilson	do	15	100 00	46 90
Geo. W. Cavanaugh	Chemist	15	12 00	75
Theodore Deecke	do	15	15 00	....
Jos. F. Geisler	do	15	41 88	65
S. A Lattimore	do	15	25 00	....
E. G. Love	do	15	18 75	....
John A. Miller	do	15	100 00	5 50
Stillwell & Gladding	do	15	40 75	1 25
E. J. Wheeler	do	15	125 00	....
J. C. Willson	do	15	50 00	....
New York Stencil Works	Cheese brands	15	....	35 00

T. Jas. Owens	Assistant commissioner		15	50 00	23 42
C. A. Wieting	Commissioner	July	1	333 34	....
Geo. L. Flanders	Assistant commissioner		1	166 68	....
Geo. B. Fellows	Agent		1	100 00	....
C. H. Allen	do		2	40 00	29 48
Chas. Burke	do		2	100 00	42 68
J. M. Hutchings	do		2	65 00	....
V. P. D. Lee	do		2	100 00	....
Simon Nussbaum	do		2	100 00	....
E. J. Wheeler	Chemist		2	125 00	....
Geo. B. Fellows	Agent		21	100 00	....
J. P. Clark	Assistant commissioner		21	100 00	53 78
Wm. T. Hughes	do		21	100 00	50
C. D. Moore	do		21	100 00	3 54
T. Jas. Owens	do		21	100 00	21 55
P. H. Parker	do		21	100 00	50 49
J. M. Robinson	do		21	100 00	28 04
Asa L. Twitchell	do		21	100 00	40 14
B. F. Van Valkenburgh	do		21	208 33	15 18
E. A. Ayers	Cheese instructor		21	100 00	59 02
Geo. D. Babcock	Agent		21	75 00	51 25
Grove Barnum	do		21	75 00	31 13
W. J. Bennett	do		21	75 00	71 77
George Bernhard	do		21	100 00	23 02
James Boice	do		21	75 00	66 56
Arch. D. Clark	do		21	100 00	67 90
W. J. Corbett	do		21	75 00	19 26
John J. Coughlin	do		21	100 00	12 37
A. S. Delano	do		21	100 00	16 69
M. Dugan	do		21	75 00	73 15
John R. Earl	do		21	100 00	13 17

DETAILED STATEMENT, ETC.—(*Continued*).

PAYEE.	Position held.	Date of check.	Compensation.	Expenses.
M. Galligan	Agent	July 21	$75 00	$14 76
Frank E. Geise	do	21	90 00	12 69
W. W. Hall	Cheese instructor	21	100 00	78 43
P. C. Harp	Agent	21	75 00	59 40
C. S. Kellogg	do	21	75 00	42 53
P. H. Kelly	do	21	75 00	26 34
John McGuire	do	21	100 00	65 80
A. J. McSweeney	do	21	75 00	50 61
W. W. Meeteer	do	21	100 00	27 95
M. T. Morgan	Cheese instructor	21	100 00	95 67
C. J. Morganstern	Agent	21	75 00	27 94
Chas. F. Nash	do	21	75 00	62 30
John T. Norton	do	21	100 00	60 34
Jos. M. Quigley	do	21	100 00	22 96
Wm. B. Reading	do	21	75 00	14 70
H. A. Rees	Cheese instructor	21	100 00	65 39
Hoffman Ruger	Agent	21	75 00	10 45
N. Van Horne	do	21	75 00	72 55
C. B. Wakefield	do	21	40 00	49 88
E. S. Wilson	do	21	100 00	59 82
Geo. W. Cavanaugh	Chemist	21	6 00	25
Estate of R. D. Clark	do	21	83 33	....
Jos. F. Geisler	do	21	194 00	11 47
S. A. Lattimore	do	21	75 00	3 00
E. G. Love	do	21	21 00	75

John A. Miller	do		21	100 00	....
J. C. Willson	do		21	50 00	....
M. Quigley	Veterinarian		21	500 00	88 43
Henry S Ambler	Assistant commissioner		28	100 00	51 01
Chas A. Wieting	Commissioner		30	333 33	....
Geo. L Flanders	Assistant commissioner		30	166 66	....
C. H. Allen	Agent		30	60 00	34 39
J. M. Hutchings	do		30	75 00	....
V. P. D. Lee	do		30	125 00	....
Simon Nussbaum	do		30	100 00	....
Geo. L. Flanders	Assistant commissioner		30	....	*369 67
Chas. A. Wieting	Commissioner	August	3	....	87 47
H M. Eldredge	Counsel		3	325 00	95 65
Geo. L. Flanders	Assistant commissioner		15	166 66	....
Henry S. Ambler	do		18	100 00	53 67
Verlett C. Beebe	do		18	85 47	32 37
J. P. Clark	do		18	100 00	26 50
Wm. T Hughes	do		18	100 00	2 35
C. D. Moore	do		18	100 00	9 73
T. James Owens	do		18	100 00	36 09
P. H. Parker	do		18	100 00	62 24
J. M. Robinson	do		18	25 00	9 49
Asa L Twitchell	do		18	100 00	31 15
B. F. Van Valkenburgh	do		18	208 33	13 22
E. A. Ayers	Cheese instructor		18	100 00	61 64
Geo. D. Babcock	Agent		18	75 00	51 00
Grove Barnum	do		18	75 00	36 57
W. J Bennett	do		18	75 00	82 43
Geo. Bernard	do		18	75 00	30 78
James Boice	do		18	75 00	93 94

*Printing, stationery, postage, etc.

DETAILED STATEMENT, ETC. — (*Continued*).

PAYEE.	Position held.	Date of check.	Compensation.	Expenses.
Chas. Burke	Agent	August 18	$100 00	$45 36
Arch D. Clark	do	18	100 00	51 05
W. J. Corbett	do	18	60 00	32 17
John J. Coughlin	do	18	75 00	17 79
A. S. Delano	do	18	100 00	20 55
M. Dugan	do	18	75 00	76 35
John R. Earl	do	18	75 00	13 97
Geo. B. Fellows	do	18	....	26 40
M. Galligan	do	18	75 00	15 54
Frank E. Geise	do	18	75 00	13 23
W. W. Hall	Cheese instructor	18	100 00	81 20
P. C. Harp	Agent	18	75 00	53 23
W. B. Howard	do	18	150 00	61 01
Chas. S. Kellogg	do	18	75 00	55 69
P. H. Kelly	do	18	60 00	27 63
John McGuire	do	18	100 00	49 10
A. J. McSweeney	do	18	75 00	57 82
W. W. Meeteer	do	18	100 00	57 45
M. T. Morgan	Cheese instructor	18	100 00	100 32
C. J. Morganstern	Agent	18	75 00	50 30
Chas. F. Nash	do	18	75 00	56 74
John T. Norton	do	18	100 00	47 80
R. H. Palmer	do	18	150 00	150 28
Jos. M. Quigley	do	18	75 00	30 52
Wm. B. Reading	do	18	75 00	15 02

H. A. Rees	Cheese instructor		18	100 00	34 24
Hoffman Ruger	Agent		18	75 00	21 69
Geo. A. Smith	Cheese instructor		18	50 00	41 49
N. B. Van Horne	Agent		18	75 00	91 05
C. B. Wakefield	do		18	60 00	43 78
E. S. Wilson	do		18	100 00	46 90
Geo. W. Cavanaugh	Chemist		18	18 00	1 00
Theodore Deecke	do		18	15 00	....
Jos. F. Geisler	do		18	84 13	90
S. A. Lattimore	do		18	65 00	....
E G. Love	do		18	18 00	25
John A. Miller	do		18	100 00	....
H. E. Nims	do		18	6 00	....
E. J. Wheeler	do		18	125 00	....
J. C. Willson	do		18	50 00	....
C. H Allen	Agent		31	60 00	20 25
Geo. B Fellows	do		31	....	16 43
J. M. Hutchings	do		31	75 00	....
V. P. D. Lee	do		31	125 00	....
Simon Nussbaum	do		31	100 00	....
E. J. Wheeler	Chemist		31	125 00	....
Geo. B. Fellows	Agent		31	100 00	....
Chas. A. Wieting	Commissioner	September	1	333 33	....
Geo. L. Flanders	Assistant commissioner		1	....	*649 74
Chas. A. Wieting	Commissioner		9	....	25 48
Frank Wieting	....		11	18 00	14 93
Geo. L. Flanders	Assistant commissioner		14	166 68	....
Henry S. Ambler	do		22	100 00	36 96
Verlett C. Beebe	do		22	189 53	32 85
J. P. Clark	do		22	100 00	46 72

* Hotels and fares, $5.31; printing, stationery, postage, etc., $644.43.

DETAILED STATEMENT, ETC.—(*Continued*).

PAYEE.	Position held.	Date of check.	Compensation.	Expense.
Wm. T. Hughes	Assistant commissioner	September 22	$100 00	$ 98
C. D. Moore	do	22	100 00	10 22
T James Owens	do	22	100 00	20 93
P. H. Parker	do	22	100 00	60 69
Asa. L. Twitchell	do	22	100 00	55 35
B F. Van Valkenburgh	do	22	208 33	12 30
E. A. Ayers	Cheese instructor	22	100 00	64 90
George D. Babcock	Agent	22	75 00	69 36
Grove Barnum	do	22	75 00	40 36
W. J. Bennett	do	22	75 00	76 65
George Bernhard	do	22	75 00	36 48
James Boice	do	22	75 00	....
Charles Burke	do	22	100 00	36 95
Arch D. Clark	do	22	100 00	59 90
W. J. Corbett	do	22	60 00	60 53
John J. Coughlin	do	22	75 00	15 76
A. S. Delano	do	22	100 00	16 49
M. Dugan	do	22	75 00	71 87
John R Earl	do	22	75 00	14 09
M. Galligan	do	22	75 00	20 77
Frank E. Geise	do	22	75 00	17 00
W. W. Hall	Cheese instructor	22	100 00	83 84

P. C. Harp	Agent	22	75 00	42 58
W. B. Howard	do	22	75 00	46 96
Charles S. Kellogg	do	22	75 00	78 75
P. H. Kelly	do	22	60 00	25 88
Robert McAdam, Jr	do	22	75 00	44 40
John McGuire	do	22	100 00	61 05
A. J. McSweeney	do	22	75 00	51 85
W. W. Meeteer	do	22	100 00	53 65
M. T. Morgan	Cheese instructor	22	100 00	82 60
C. J. Morganstern	Agent	22	75 00	37 25
Chas. F. Nash	do	22	75 00	62 84
John T. Norton	do	22	100 00	58 85
R. H. Palmer	do	22	75 00	72 63
Joseph M Quigley	do	22	75 00	36 16
Wm. B. Reading	do	22	75 00	12 45
H. A. Rees	Cheese instructor	22	100 00	82 39
Hoffman Ruger	Agent	22	75 00	15 46
George A. Smith	Cheese instructor	22	100 00	46 29
C. B. Wakefield	Agent	22	60 00	50 20
E. S. Wilson	do	22	100 00	55 50
George W. Cavanaugh	Chemist	22	6 00	50
Theodore Deecke	do	22	20 00	....
F. E. Engelhardt	do	22	6 00	34
Joseph F. Geisler	do	22	194 88	1 38
S. A. Lattimore	do	22	40 00	....
E. G. Love	do	22	95 00	1 25
John A. Miller	do	22	100 00	....
Wm M. Smith	do	22	12 00	56
Stillwell & Gladding	do	22	8 00	50

DETAILED STATEMENT, ETC.—(*Concluded*).

PAYEE.	Position held.	Date of check.	Compensation.	Expense.
J. C. Wilson	Chemist	September 22	$50 00	....
New York Stencil Works	Cheese brands	22	....	$35 00
Chas. A. Wieting	Commissioner	28	333 34	....
George B. Fellows	Agent	28	100 00	....
N. Van Horne	do	29	75 00	70 06

EXPERIMENT STATIONS.

New York State Agricultural Experiment Stations.

I addressed a communication on December second to Prof. W. H. Jordan, Director of the New York State Agricultural Experiment Station, at Geneva, N. Y., requesting him to give me a brief statement as to the condition and purposes of the experiment station, and state to me his views and desires as to the work of the coming year.

I received from him a communication in response thereto, under date of December 7th, which follows, and is hereby respectfully submitted for your consideration:

Hon. C. A. WIETING, *Commissioner of Agriculture, Albany, N. Y.:*

Sir.— In accordance with your request, under date of December second, I have the honor to communicate to you a brief statement of the requests, which I understand it to be the purpose of the Board of Control of this Station to make of the forthcoming Legislature. I shall also take the liberty, in view of certain statements made to me by Deputy Commissioner Flanders, to briefly review the equipment and work of the Station.

EQUIPMENT AND MEN.

I found, upon taking direction of the work of our Station on July first of this year, a scientific staff consisting of fifteen men, divided as follows: One first assistant, one chemist and six assistant chemists, one horticulturist and two assistant horticulturists, two entomologists, one mycologist and one agriculturist.

The labor of these men is divided as follows: A part of the time of the chemist-in-chief and all the time of three assistant chemists are given to the regular work of investigation, including the analysis of foods, fruits, samples of milk, etc. The remainder of the time of the chemist-in-chief and the time of the three assistant chemists are devoted to the work of the inspection and analysis of fertilizers. The horticulturist and his two assistants are occupied with the horticultural investigations carried on at the Station, with the exception that the horticulturist-in-chief acts in an advisory capacity in the planning and execution of the work in the Second Judicial Department. One entomologist is also located at the Station.

There is engaged in the work of the Second Judicial Department one entomologist and one mycologist, these gentlemen working under advice and assistance from the central office. The agriculturist has immediate charge of the practical operations of the Station farm, and is also superintendent of labor.

BUILDING EQUIPMENT.

The buildings located on the Station grounds consist of the Directors's house, which contains the offices of the Station; the chemical laboratory; three barns; one cold storage-house; a dairy building; two forcing-houses and five dwelling-houses, which are occupied by members of the staff. It is to be noted that the only one of these buildings which is designed for scientific work other than that which is carried on in the forcing-houses, is the chemical laboratory, a portion of which is temporarily used by the horticulturist and his two assistants.

FARM EQUIPMENT.

The entire area of land owned by the Station is 130 acres, more or less. Exclusive of the grounds occupied by the buildings, and of certain unavailable land, something over 100 acres of land are in use for various purposes. Of this latter area, thirty acres are occupied by approximately 3,100 varieties of fruits.

WORK OF THE STATION.

While the work of this Experiment Station is under the direction of a single head, it may properly be regarded as divided into three parts, corresponding to the several appropriations made by the State. The general fund, so-called, is used in carrying on the principal work of investigation and experiment which is performed at the Central Station. A special appropriation is made for work in the Second Judicial Department of the

State of New York, all of which is expended in that portion of the State, largely in a study of plant diseases and injurious insects affecting the market gardeners and forcing-house producers.

There is also an appropriation to cover the expense of printing and of fertilizer control, a generous portion of which is paid out to meet the cost of the sampling and analysis of the commercial fertilizers sold in the State. At the present time the work being conducted under the general appropriation includes the following list of subjects:

Fertilizer requirements of fruits and vegetables.
Composition of plants as affected by their food.
Test of production with sugar beets.
Study of dairy breeds.
Study of cheese-factory milk.
Coagulation of milk by rennet.
Composition of casein.
Analysis of insecticides and fungicides.
Leaf-spot on plum trees.
Leaf-spot on cherry trees.
Raspberry anthracnose.
Testing spraying machines.
Fertilizing apple trees.
Peach yellows.
Girdling grapes.
Self-fertility of varieties of grapes.
Plum stock for orchards.
Hardiness of fruit trees and fruit buds throughout the State.
Depth of planting radish seeds.
Methods of forcing lettuce.
Methods of forcing tomatoes.
Testing varieties of fruits and vegetables.
Feeding experiments with pigs.
Feeding experiments with poultry.
Feeding experiments with chicks.
Feeding experiments with laying hens.

Field experiments on the value of indirect fertilizers.

Field experiments to test the comparative economy of the use of farm manures and commercial fertilizers.

Feeding experiments to determine the source of fat in milk.

Feeding experiments to determine the relative value of home-raised as compared with certain purchased foods.

In the Second Judicial Department the following subjects are being studied by experiments and investigations:

Experiment with carnation rust. The object of this experiment is to determine whether this disease can be prevented by weekly sprayings with fungicides, and also by an application of salt to the soil. This work has been prosecuted in two different localities at Jamaica, and was undertaken because of the great economic importance to the forcing-house men of that region of the carnation crop.

Carnation stem-rot. An experiment is being conducted to determine whether treatment with sulphur will prevent this trouble.

An experiment with clover. We are endeavoring to ascertain whether it is possible to inoculate certain soils where clovers refuse to grow with the tubercle bacterioides which seem to be essential to the proper development of the clover plant.

Spraying potatoes. The effort in this experiment is to determine the relative value of different spraying mixtures in preventing potato blight and the potato beetle.

An experiment in the use of fertilizer on potatoes. Three points are under consideration in this experiment. *a.* Comparison of three complete fertilizers with different compositions. *b.* Comparison of different amounts of fertilizers. *c.* Comparison of different materials used in making up fertilizers. *d.* Comparison of sod and fallow land. *e.* A study of the lasting power of fertilizers.

Experiment for the prevention of cucumber blight. The object of this experiment is to learn whether cucumber blight may be prevented by spraying with Bordeaux mixture.

Study of the life history of certain potato diseases.

Test of methods for preventing onion smut. The purpose of this test is to learn whether air-slaked lime or flour of sulphur will prevent onion smut.

Test of poisoned baits for the prevention of cut worms; also a test of the effects of spraying with kerosene emulsion at night.

A continuation of experiments commenced in 1895 for the prevention of the pear midge. Traps have been used to determine the effect of salt and kainit.

A test of hydrocyanic acid as a means of preventing the San José scale. The importance of an experiment of this kind, in view of the destructive nature of the insect, is undoubted.

Miscellaneous work, including spraying cabbages for the cabbage worm, spraying Brussels sprouts in order to prevent ravages of diamond black moth caterpillar, and a study of the food plants and habits of the seed-stalk weevil that works on kale, cabbage and turnips.

The inspection and analysis of fertilizers is now going on under the new law passed by the Legislature in the winter of 1896. This work has assumed very large proportions. During this year 124 companies have registered 1,126 brands of fertilizers in the office of this Station. Two authorized agents of the Station have been in the field during about four months of the year, selecting samples of fertilizers such as they could find offered for sale in the markets of the State. So far 575 brands have been analyzed in 1896. It is readily seen that there are a large number of brands of which we have not been able to get samples. This is due to the fact that many brands are not sent into the State and certain companies are manufacturing special brands for a single local agent. In these latter cases, the quantity not being large, the shipment of the special brand is received by the agent and is promptly disposed of to the farmers, so that unless the Station is notified, the goods are received and sold without giving an opportunity for their inspection. It is safe to say, however, that the 575 brands analyzed include all of those of which large quantities are sold in the State; so that while only a little over half of the brands have been inspected, this inspection covers the great bulk of commercial fertilizing materials used in New York.

Fertilizer control has existed in the State of New York since 1890, and during that time 3,068 samples have been collected and 19 bulletins have been published under the operation of the fertilizer inspection law, and an aggregate of fourteen million printed pages have been distributed. During 1896 at least one fertilizer which was being sold at a great over-charge has had its fraudulent character fully exposed to the people of the State by a special bulletin.

PUBLICATIONS.

The publications of this Station consists of an annual report and of bulletins issued from time to time. The copy of the Annual Report of 1895 was transmitted to your Department early in 1896, and I desire to call attention to the fact that this printed report is not yet received from the State printer. Such delay in placing before the people of the State the complete results of the operations of the Station during a whole year must be regarded as very unfortunate.

Up to the present time the Station has sent out 277 bulletins, fourteen of which have already been issued during the year 1896; and we now have on hand material for about twenty more bulletins, which will be printed as rapidly as the copy can be prepared. During the past year the plan has been adopted of issuing with each bulletin a brief popular review for use by the editors of our agricultural papers. These brief reviews seem to be very generally noticed by the State editors, and we believe are an efficient means of calling attention to the results and value of our work. The bulletins of the Station are now issued to about 25,000 persons whose names are on our mailing list, chiefly those who reside in the State of New York.

The titles of the bulletins already issued in 1896 are as follows:

Plum leaf spot, cherry leaf spot, fruit rot.
The spinach leaf maggot or miner.
Combating carnation rust.

Potato diseases.
Silage and silos.
Fertilizer law.
Army worm.
Effect of drought upon milk production.
Whole and ground grains for laying hens.
Analysis of fertilizers collected in the spring of 1896.
"Natural plant food."
Strawberries.
Milk fat and cheese yield.
Test of blackberries, dewberries and raspberries.

FUTURE POLICY OF THE STATION.

The comparative magnitude of the agricultural interests of this State clearly indicate that the activities of this Station should mainly center around two lines, namely, dairying and horticulture. New York is the greatest cheese-producing State in the Union, and no State in the eastern half of our country at least, excels it in the variety and extent of its fruit and vegetable production. I am convinced, and in this I have the unanimous support of the members of the Board of Control, that the future development of the work of the Station should be mainly along these two lines, including, of course, certain allied branches of applied science. It is gratifying to be assured that the New York State Station is already regarded as the leading one in horticultural work.

I am also sure that if the results of the Station work and investigation are to be those in which the farmers of the State can place implicit confidence, they must be worked out by careful and severe methods.

It is clearly the function of the Station to search for underlying causes and principles which affect the business of the farmer. To that end the members of the scientific staff should be men of a high order of attainment, both scientific and practical, and the equipment of buildings and apparatus should be such as to give their efforts the largest scope and efficiency.

ADDITIONAL EQUIPMENT NEEDED BY THE STATION.

In view of this general conclusion, the Board of Control has determined that certain additions should be made to the equipment of the Station in the way of men and buildings. I will briefly indicate what these proposed additions are, and the reasons why the Legislature of this State will be requested to assist in making them.

STATION EDITOR AND LIBRARIAN.

It is proposed to add to the Station staff an officer whose title will be unlike any now existing in the experiment stations of the country, namely, a Station editor and librarian. The value of the institution to the farmers of New York depends very largely upon the extent to which they are made to understand and appreciate the results of the Station's experiments and investigations. It is believed that an improvement can be made in the extent and efficiency of the publications issued by the Station by having these bulletins so edited and summarized that they will be brought within the reach of the comprehension of the average farmer. In view of the large amount of literature which the Station issues, it is very evident that such work may largely occupy the time of some person who has special qualifications for doing it.

Besides this the Station sadly needs an enlarged and well organized library. No body of scientific men should be denied the means of determining what has previously been done in the lines along which they are working.

DAIRY BACTERIOLOGIST.

It is also proposed to add a dairy bacteriologist to the scientific corps of the Station. The investigation of dairy products has now reached that point where the bacteriological relations give promise of furnishing very fruitful results. Especially in the matter of curing cheese is there a large and unoccupied field for securing exact knowledge as to the proper means for controlling the kinds and quality of the product.

BOTANIST AND MYCOLOGIST.

In view of the great increase in the various diseases affecting the vegetables and fruits of this State, it seems almost absolutely necessary to enlarge our facilities for making a study of these diseases. In order to do this it is necessary that there should be in the force of the Central Station a mycologist of no mean order of attainments.

These, then, are the three men which, in the opinion of the management of the Station, are those which should, during the coming year, be added to the working force. It is not proposed, however, to ask at present for any increase in the regular appropriation made to the Station because of these additions to the Station staff. Now that the expense incident to the establishment of a new institution has been met from year to year until the grounds and the present buildings of the Station are in an attractive and efficient condition, it is felt that a larger proportion of money can be used for the payment of scientific experts.

The buildings and apparatus now in possession of the Station are clearly inadequate to accommodate the work which it is proposed to undertake, or even the work which is now going on. The only building at hand for scientific uses is the chemical laboratory, which is almost wholly occupied by the chemical work, leaving very inadequate space for the horticultural and mycological work. When, therefore, it becomes nesessary to find a place for the bacteriologist and mycologist it is evident that this must be provided by additional building space. Moreover, the Station is without a dairy building adequate for the work upon which we hope to enter. The dairy building now here is of less capacity and of poorer quality than can be found on many large farms. There are no facilities at all for work in the manufacture of cheese. It is proposed, therefore, to ask of the Legislature which is to assemble this winter the following additional building equipment.

BIOLOGICAL AND DAIRY BUILDING.

A brick building not far from 90 feet by 70 feet, which shall contain offices, laboratories and museums for the horticulturist and his assistants, for the mycologist, for the entomologists and for the bacteriologist. This building is also to contain space and appliances for the investigations of the problems, both bacteriological and others, pertaining to the manufacture of milk into butter and cheese, as well as the investigation of Pasteurizing and sterilizing dairy products. It is to be a dairy building not for instruction purposes, but for investigation purposes, and will, in many respects, be greatly unlike any building now existing in this country, and so far as I can learn, in any country. The unique feature of the building will be the means of investigation conditions under which cheese is to be cured in order to control the kinds and quality.

GLASS HOUSES.

As adjuncts to this building it is proposed to erect two glass houses in addition to those now at the Station, one to be used as an insectary and the other as a plant hospital in which to study the diseases of plants.

POULTRY EQUIPMENT.

There appears to be a lively demand for experiments and investigations relating to poultry culture. If the Station is to carry on such work on a scale commensurate with the present means and methods in use by poultrymen we must have a modern plant with which to work.

An incubator cellar, brooder houses heated by hot water, and breeding pens, all conveniently connected, are imperatively needed if the Station is to profitably conduct work of this nature.

These buildings are not asked for merely because they are desirable, but because the maximum efficiency in the administration of the funds now appropriated for this Station demands them. The New York Experiment Station has become one of the established institutions of the State, the usefulness of which no longer needs demonstration. I am gratified to find, since coming to the State, that the sentiment of the efficient agricultural bodies of the State and of the leading farmers will heartily ratify any useful development of the Station work.

CORRESPONDENCE.

The correspondence between this Station and its constituency is one of the important features of its work. We are daily in receipt of large numbers of letters asking for information on all points relating to fertilizers, cattle foods, poultry, fruits and other lines. It is worthy of mention that during the time of the ravages of the army worm in this State we were called upon to place ourselves with very many farmers who were being afflicted, and we are sure that we were able to render prompt and efficient aid in combating the ravages of this pest. The members of the Station staff are annually replying to not less than 5,000 inquiries concerning agricultural matters.

INSTITUTE WORK.

The members of the Station staff are being as freely used in the institute work by your Department as is consistent with a proper prosecution of their regular duties. Such public instruction is important, and I am gratified to discover that this institution is in a position to coöperate with you in work of so useful a character.

In making this preliminary report, I take the liberty of expressing the hope that the suggestions herein made for the enlargement and development of the activities of this institution will meet with your approval. Any expression of such approval which you may see fit to make to the incoming State administration cannot fail to greatly aid us in the furtherance of our plans.

Yours very respectfully,

W. H. JORDAN,

Director.

Cornell University Experiment Station — Nixon Law.

The Experiment Station at Ithaca has submitted to me a report of the work performed by it under the so-called "Nixon Law" for the year 1896. I submit the entire report to you herewith, which is in the form of a bulletin numbered 122. I will not discuss it beyond the point of calling your attention to a statement made therein of conclusions reached relative to the idea generally of how to proceed with the work of education along these lines as viewed by the author, who says: "As the result of holding of many of these schools, I am now of the opinion that they cannot be used as primary factors in university extension; they are capable of accomplishing a great amount of good when the community has been awakened by similar and more elementary means. I should, therefore, consider that they should serve their best uses when they are given as a reward to those communities in which the greatest amount of interest in reading courses—in horticultural clubs, institutes and such other public factors— has been developed. There are centers enough in New York State where such schools can be held with distinctive advantage at the present moment; but they should be rather a culmination of the series of extension teaching efforts than a primary or preliminary means of awakening the rural communities." It is a fact that for a series of years the farms of the State have gradually been depopulated by the dissatisfaction with rural life, which has been naturally inculcated in the minds of the rising generation by the dullness and lack of interest in farm work, which naturally made of it a drudgery. To such an extent has this been going on that it has finally reached a state that, to the thinking person, is alarming, and after due consideration of this state of things an association has been formed, based upon philanthropic principles, supported by private contribution, one of the objects of which is to see what can be done toward producing, or bringing about, a system of education that shall turn the tide the other way and educate back toward the farm; that is, to make a proper proportion of our population seekers after new truths and facts along agricultural lines, and interest them in making such practicable application of those already known, as to make farming an interesting and financial success without leaving as an inheritance to the coming generation a depleted soil. I believe that this is a great work yet to be done, and at this stage it is really a problem but partially solved, which, in its proper completion, will produce results both financially and morally of great benefit to the people of the State, and for that reason I respectfully suggest that your honorable body give such aid as may be deemed wise after due and careful consideration of the needs and the different plans which may be presented. The bulletin above referred to follows:

EXTENSION WORK IN HORTICULTURE.

The Honorable Commissioner of Agriculture, Albany:

Sir.—About a year ago (in Bulletin 110), I made an official report of the progress of the work which had been undertaken by this institution in furtherance of the purpose of the Experiment Station Extension, or Nixon bill. That report was made at the expiration of the second year's work under that law. A third year has now been added to our experience, and we have also made some departures in the character of the work; and since the undertaking has now grown to such proportions that it can no longer be handled by any of the regularly organized departments of the College of Agriculture of Cornell University, it has seemed to us to be worth the while to address you another report of progress.

GENERAL SCOPE OF WORK.

In the former report, it was explained that the work of extending the influence and usefulness of the Experiment Station has been thrown into three more or less separate lines,—research or experiment, direct teachings, and the publication of the results of investigation. The animus of the entire enterprise has been an attempt to inquire into the agricultural status, to discover the causes of the rural depression, and to suggest means for improving the farmer's position. This attempt has been specifically directed to a single great branch of rural industry, horticulture, in pursuance of the provisions of the law; but what is true of the horticultural communities is essentially true of other agricultural regions, and, moreover, these two types of agricultural industry cannot be separated by any arbitrary lines. The work, therefore, has practically resulted in a broad study of rural economics. We conceive that it is impossible to really extend the Experiment Station and University impulse to the people in such manner that it shall come to them as a living and quickening force, without first studying the fundamental difficulties of the farmers' social and political environment.

It is not necessary to the present report that I make any discussion of the agricultural status. I may only say that, as the result of the most painstaking study which I have been able to make, I am convinced that there is no agricultural disease. That is, there is no politcal condition which is peculiar to agriculture and which can be remedied by legislation. By reason of their inherent conservatism, the agricultural people have not yet adjusted themselves to the recent social and economic movements, and they have not fully assimilated the knowledge and impulses of the time; and I am also convinced that grave errors have been committed in forcing the development of western lands. If these general conclusions are sound, then it follows that the solution of our agrarian difficulties is to be sought in better education. By education, I mean literally what I say,—by means of a general waking up, a shaking out of all the old habits of thought, an injection of new conceptions of life, an intellectual stirring up of every rural community. I do not mean the simple giving of information, the cramming in of carefully assorted facts. We need to shake out the snarls and kinks of prejudice and indifference before giving great attention to the dissemination of more direct information. There is already enough popular knowledge of better agricultural methods to greatly improve our rural conditions, if only the farmers would assimilate it and apply it. This knowledge is of little account when it is a mere extraneous possession. It must be worked into the fibre of the man until he is not aware that he possesses it.

In this extension work, therefore, we have sought not so much for new facts as for some way of driving home the old facts. We have tried to set forces at work which would silently extend themselves when we had left them. Fortunately, we have been greatly aided by the hard times and the multitudes of bugs and special difficulties. These things have driven people to thinking and to asking for information. The agricultural communities are thoroughly aroused, and now is the time to teach. When one is thoroughly prosperous in his business, there is little chance—as, in fact, there is generally little need—of teaching him other methods.

I must hasten to say that the agricultural status in Western New York is not such a deplorable one as my reader may suppose, or as he may infer from my preceding remarks. Those farmers who grow various and difficult crops are wide awake, intelligent, aggressive and for the most part contented. The man who grows only a few staple crops is very apt to fall into stereotyped ways of thinking, which may mean that he drops behind the times. Just as fast as more varied farming is forced upon the agricultural communities by the inexorable struggle for existence, will the farmer's horizon and sympathies enlarge; and with the progress of this broadening and educative impulse—which now, fortunately, is rapidly rising—the farmers will find themselves in position to correct whatever minor faults of legislation that may have occurred, and to direct and control the social forces with which they are concerned.

We might classify our efforts to reach the people, in the progress of our work, under five general heads. These efforts have all been experiments in methods of extension teaching as applied to horticulture. We have tried to ascertain the value of:

1. The itinerant or local experiment as a means of teaching.
2. The readable expository bulletin.
3. The itinerant horticultural school.

4. Elementary instruction in the rural schools.
5. Instruction by means of correspondence and reading courses.

Unless all signs are deceptive, the greatest good which has yet been accomplished has come through the bulletins. We have wished that we might be able to make bulletins which would interest the reader aside from the information which they contain. We should have liked to put juice into them, for pemmican, whilst exceedingly nutritious, is difficult of digestion.

Aside from the reporting of definite experiment work, these bulletins have taken the form of surveys of the status of certain industries; and an effort has also been made to give a new flavor to country life by writing upon subjects of floriculture and ornamental gardening. Whilst it seems to us that the publications have been useful in furthering the work which we have had in mind, we are nevertheless convinced that an unlimited issue or even a very large number of such expository bulletins would not be proportionately useful at the present time. There are still a number of horticultural subjects which we desire to treat in this spirit; but it is evident that the real fundamental work of extension teaching must be prosecuted along other lines in connection with publication of a distinctly didactic kind. It may be said, before leaving this subject, that the entire number of bulletins thus far published under the auspices of the Nixon bill, including the present report, is forty. The experimental and investigational work which is still going forward—of which there is considerable—will be reported in forthcoming bulletins. For the present report, it is only necessary to explain the work of direct teaching which we have undertaken during the present year, and to draw certain conclusions from the general work of the Nixon bill.

2. EXPERIMENTS IN EXTENSION TEACHING.

During the past season, we have made an especial effort to determine the best methods of reaching the rural communities by means of personal teaching, and our work has fallen into three general lines. In the first place we have carried forward one month's work of consecutive teaching by means of the type of horticultural school which we have heretofore held and which is somewhat fully reported in Bulletin 110; we have made another experiment of a month's duration in teaching nature-study and object lessons in the rural schools of the Fourth Judicial Department; and at the present time, we are endeavoring to carry forward the instruction which has been thus begun by means of correspondence and an attempt to establish reading courses in the various school districts and rural organizations.

The horticultural schools held during the month of September were as follows, the names of the teachers being in italic:

1. Aug. 28, 29, *F.*, *S.* Jamestown, Chautauqua Co., Y. M. C. A. Hall, *Bailey*, *Slingerland & Lodeman*, *Roberts. Powell & Cavanaugh*, *Clinton.*
2. Aug. 29, *S.* Ellington, Chautauqua Co. Case & Frisbee's Hall. *Lodeman*, *Slingerland*, *Powell.*
3. Aug. 31, Sept. 1, *M.*, *T.* East Randolph, Cattaraugus Co. Hall's Opera House. *Clinton*, *Cavanaugh*, *Powell. Lodeman & Slingerland*, *Bailey.*
4. Sept. 2, 3, 4, *W. Th.* Cuba, Allegany Co. Fireman's Hall. *Bailey*, *Cavanaugh*, *Powell. Slingerland*, *Powell and Clinton.*
5. Sept. 2, 3, 4, *W. Th.*, *F.* Brocton, Chautauqua Co. Evenings only. *Bailey. Lodeman. Powell.*
6. Sept. 4, 5, *F.*, *S.* Lyndonville, Orleans Co. Methodist Church. *Lodeman*, *Cavanaugh*, *Bailey. Clinton*, *Powell.*
7. Sept. 7, *M.* Romulus, Seneca Co. Romulus Hall. *Lodeman*, *Clinton*, *Roberts.*
8. Sept. 7, 8, *M. T.* North Rose, Wayne Co. I. O. G. T. Hall. *Powell*, *Duggar*, *Cavanaugh. Slingerland*, *Bailey.*
9. Sept. 8, 9, *T. W.* Williamson, Wayne Co. Grange Hall. *Powell*, *Duggar. Bailey*, *Slingerland*, *Cavanaugh*, *Clinton.*
10. Sept. 10, *Th.* Webster, Monroe Co. *Lodeman*, *Cavanaugh*, *Clinton.*
11. Sept. 9, 10, *W.*, *Th.* Hilton (N. Parma), Monroe Co. F. W. Baptist Church. *Lodeman*, *Cavanaugh*, *Powell. Slingerland & Duggar*, *Bailey.*
12. Sept. 11, 12, *F.*, *S.* Dansville, Livingston Co. Grange Hall, near Stone's Falls, Friday; farm of H. R. McNair, below Woodsville, Saturday. Basket picnics. *Bailey*, *Lodeman*, *Roberts. Cavanaugh & Duggar*, *Clinton.*
13. Sept. 12, *S.* Wyoming, Wyoming Co. *Powell & Slingerland*, *Roberts*, *Powell.*

14. Sept. 14, 15, *M. T.* Le Roy, Genesee Co. G. A. R. Hall. *Powell & Duggar, Clinton, Bailey. Cavanaugh, Mrs. Comstock.*
15. Sept. 15, *T.* Dundee, Yates Co. G. A. R. Hall. *Lodeman, Clinton, Slingerland.*
16. Sept. 16, *W.* Hall's Corners, Ontario Co. *Lodeman & Slingerland, Clinton, Lodeman.*
17. Sept. 16, 17, *W. Th.* Skaneateles, Onondaga Co. Library Hall. *Powell, Cavanaugh, Mrs. Comstock, Clinton, Roberts.*
18. Sept. 17, *Th.* Fayetteville, Onondaga Co. *Powell & Duggar, Cavanaugh, Bailey.*
19. Sept. 17, 18, *Th., F.* Oswego, Oswego Co. Court House. *Lodeman, Slingerland, Powell. Roberts, Cavanaugh.*
20. Sept. 18, 19, *F. S.* Mexico, Oswego Co. Town Hall. *Lodeman, Slingerland, Clinton, Cavanaugh, Powell.*
21. Sept. 21, 22, *M., T.* Lowville, Lewis Co. Court House. *Powell, Duggar & Slingerland, Bailey. Clinton, Cavanaugh.*
22. Sept. 22, 23, *T., W.* Poland, Herkimer Co. F. B. Church. *Bailey, Duggar & Slingerland, Powell. Clinton. Cavanaugh.*
23. Sept. 23, 24, *W. Th.* Trenton, Oneida Co. Grange Hall. *Bailey, Slingerland & Duggar, Powell. Cavanaugh, Clinton.*

24 Sept. 24, 25, *Th., F.* Clinton, Oneida Co. Scollard Opera House. *Bailey & Slingerland, Mrs. Comstock & Morrill, Bailey. Cavanaugh & Duggar, Powell.*

These schools were designed to impart specific horticultural instruction, and, more particularly, to awaken closeness of observation, and careful reasoning therefrom, upon the part of the places through a local committee which was appointed by the person who applied for the school in that community. Posters were distributed some time in advance of the meetings, the subject-matter of one of which is presented herewith:

A SCHOOL OF HORTICULTURE.

WILL BE HELD IN THE

Y. M. C. A. HALL, JAMESTOWN, CHAUTAUQUA COUNTY, N. Y.,

Friday and Saturday, August 28 and 29, 1896, beginning at 10 o'clock, sharp.

This school is held under the auspices of the Experiment Station Extension, or Nixon Law, which, for three years, has

given funds for the promulgation of horticultural knowledge in Western New York. Its territory is the Fourth Judicial Department, comprising twenty-two counties, of which the easternmost are Jefferson, Lewis, Herkimer, Oneida, Onondaga, Cayuga, Seneca, Yates and Steuben. The demands of this law are met by conducting experiments, by publishing the results of these researches in bulletin form, in sending agents or experts to examine orchards and plantations when advice is needed, and in the holding of schools in which the various matters of science and practice pertaining to fruit-growing, gardens and greenhouses are discussed. The force of instructors who take part in these schools are Mr. George T. Powell and teachers in Cornell University:

Teachers upon General Subjects: Professor I. B. Roberts, George T. Powell, Professor L. H. Bailey.

Representing Spraying, Vineyards and Small Fruits: E. G. Lodeman, Instructor in Horticulture.

Representing Entomology: M. V. Slingerland, Assistant Entomologist in the Experiment Station.

Representing Tillage, Conservation of Moisture, Farm Tools, and the like: L. A. Clinton, Assistant Agriculturist in the Experiment Station.

Representing Chemistry, Plant Foods, Fertilizers: G. W. Cavanaugh, Assistant Chemist in the Experiment Station.

Representing Plant Diseases and Botanical Matters: B. M. Duggar, Assistant Botanist in the Experiment Station.

Instruction for Children: Mrs. J. H. Comstock.

Some or all of these persons will be present at every school.

These schools are free to everyone. It is especially desired that the women and young men should attend them. Each session will be devoted to one general subject, and all questions upon that subject should be reserved for that occasion. It is the purpose of these schools to awaken an interest in rural affairs and to inspire correct methods of observation and thinking, quite as much as to give explicit direction for horticultural work.

It will conduce to the interest of the occasion if the citizens make displays of flowers, fruits and vegetables. Participants are requested to bring in all specimens of insects, diseased plants, and the like, concerning which they desire information.

Come prepared to learn, not to criticize. Bring note-book and pencil. If forty or fifty earnest persons are in attendance at all the sessions, the school will be a success; but it is desired to reach as many people as possible.

A course of reading will be laid out, at the School, for all who desire to take it up. The local rural societies should further this work. The value of the school will depend greatly upon the extent to which it stimulates further reading and study.

Whenever practicable, it is desired that one session, or a part of a session, be given to the children of the public schools.

Please circulate this information widely.

For further information consult the local committee: Newell Cheney, Poland Center; A. A. Van Vleck, Jamestown; W. C. Gifford, Jamestown; M. Wample, Jamestown;

Or address L. H. Bailey, Cornell University, Ithaca, N. Y.

Programs will be ready before the school opens.

One of the most useful exercises in connection with these schools, and which we have uniformly employed from the beginning of our work, consists in observation lessons. Some small object, like leaves or roots, flowers or seeds, is put in the hands of all the attendants, and, after they have examined it for a few minutes, the instructor begins to ask questions concerning it. This exercise drills every participant in observation, in the drawing of proper inferences from what he sees, and the exercise has always been productive of the greatest interest and good. A sample program of one of these horticultural schools is herewith submitted:

Everyone interested in Rural Affairs is invited to attend a

SCHOOL OF HORTICULTURE

TO BE HELD IN

SCOLLARD OPERA HOUSE, CLINTON, ONEIDA CO.,

Thursday and Friday, September 24 and 25, 1896.

The school is held under the auspices of the Nixon, or Experiment Station Extension Bill, which appropriates funds for the dissemination of horticultural knowledge in the Fourth Judicial Department of the State. The work is in charge of Cornell University (Ithaca), and the instruction is given chiefly by teachers in that institution, under the immediate supervision of L. H. Bailey.

Local Committee: E. P. Powell, Clinton; T. T. Thompson, Clinton; H. B. Sykes, Clinton; Ira F. Ellenwood, Clinton; J. H. Marvin, New Hartford.

THURSDAY, 10 A. M. (SEPT. 24).

Lesson upon *Flowers* — (Conducted by L. H. Bailey).

M. V. Slingerland — Insects: What they are and How they Live. Illustrated by specimens and models.

After this exercise questions may be asked about spraying.

THURSDAY, 2 P. M.

Lesson upon *Leaves* — (Conducted by L. H. Bailey).

E. P. Powell — Orchard Culture: How to secure healthy trees and healthy crops.

Mrs. J. H. Comstock — What bright-eyed children may see in their walks. Illustrated by original colored drawings.

It is hoped that the school children may be present at this latter exercise.

THURSDAY, 7:30 P.M.

Lesson upon *Branches* — (Conducted by L. H. Bailey).

L. H. Bailey — The Philosophy and Practice of Pruning. Illustrated by specimens.

This exercise will consider certain phases of evolution, as well as of the pruning of trees.

FRIDAY, 10 A. M. (SEPT. 25).

Lesson upon *Buds* — (Conducted by Professor Morrill).

A. D. Morrill — The Leaf-bud and Budding and Grafting.

B. M. Duggar — Fungi: What they are and How they Live.

At this point persons may ask questions about diseases of plants.

FRIDAY, 2 P. M.

Lesson upon *Matches* — (Conducted by George W. Cavanaugh).

George W. Cavanaugh — The Chemistry of Some Plant Foods. Illustrated by chemical tests.

George T. Powell — How to Pick, Pack and Export Apples.

Will some one bring in a barrel of apples properly packed?

Be on hand promptly at the opening hour. Time is precious.

Bring note-book and pencil.

Bring all the family. The introductory lessons will be especially interesting to children, and there should be a good turnout.

Come prepared to ask and to learn, but do not come to criticize. The school is intended for those of an inquiring mind, not for those who wish simply to be entertained.

Each regular attendant will be enrolled as a scholar.

Printed synopses of each regular talk or lecture will be distributed.

Bring in specimens of fruits, insects, plants, and whatever else interests you.

It is more needful to learn first to think correctly than to perform correctly; for all accurate labor is the child of accurate thought.

Bring this program with you.

We have taken up this experiment in teaching with the same spirit in which we would take up an investigation in natural science; that is, we have not attempted to prove any preconceived notions but have wished to seek for the truth. We have desired chiefly to know what is the best means of reaching the farming communities with the new educational impulses. In respect to these September schools, I may say that they were uniformly well received by the communities in which they were held. As an experiment, all of them are considered to have been successful, although it should be said that one of them was not held because of a conflict with a county fair. These schools have drawn a limited number of participants, ranging all the way from twenty to two hundred. I presume that an average attendance would run from forty to sixty. The participants have almost uniformly been the most influential horticulturists and farmers of the neighborhood — persons who extend a wide influence and who will give great popularity to any work in which they are interested. In distinctively fruit-growing regions, and especially in those localities where farmers' institutes, grange meetings and other like assemblages have been held, these schools have been immediately worth many times more than they have cost. In certain other communities, however, especially those in which farmers' meetings have not been held energetically, and in grazing regions, these schools have, in my opinion, been of too technical or special character to produce the greatest amount of good. As a result of the holding of many of these schools, I am now of the opinion that they cannot be used as primary factors in university extension; they are capable of accomplishing a great amount of good when the community has been awakened by simpler and more elementary means. I should therefore consider that they could serve their best uses when they are given as a reward to those communities in which the greatest amount of interest in reading courses, in horticultural clubs, institutes and such other public factors has been developed. There are centers enough in New York State where such schools can be held with distinct advantage at the present moment; but they should be rather the culmination of a series of extension teaching efforts rather than a primary or preliminary means of awakening the rural communities.

During October a series of meetings was held in the schoolhouses of various parts of the Fourth Judicial Department. These were under the immediate supervision of Mr. George T. Powell, who was assisted throughout the month by Mr. John W. Spencer, of Westfield. These meetings were of the type which had been so successfully inaugurated in Westchester county a year ago under the auspices of the Committee for the Promotion of Agriculture, a work which had been carried to its practical demonstration by Mr. Powell. The itinerary of the October meetings, together with some statistics thereof, are herewith submitted:

Oct.	1.	A. M.	Charlotte Centre, Chautauqua Co., Geo. R. Mathewson, teacher; 36 pupils.
		P. M.	Sinclairville High School, Chautauqua Co., Professor F. L. Hannum, principal; 165 pupils.
	2.	A. M.	Thornton, Chautauqua Co., Bates District, Blanche Stone, teacher; 37 pupils.
		P. M.	Ellington, Chautauqua Co., High School, Professor E. W. Storms, principal; 130 pupils.
	3.	P. M.	Kennedy, Chautauqua Co., Mrs. Millie Lathrop Williams, teacher.
	5.	A. M.	Ashville, Chautauqua Co., D. H. Findley, principal; three departments; 60 pupils.
		P. M.	Blockville, Chautauqua Co., J. C. Smith, teacher; 34 pupils.
	6.	A. M.	North Collins, Erie Co., High School, L. L. Shore, principal; 130 pupils.
		P. M.	North Collins, Eugene Willitt's District, Elizabeth E. Kingsland, teacher; 23 pupils.
	7.	—	East Aurora, Erie Co., Jewett District, Miss Luella Malon, teacher; 18 pupils.
		A. M.	Youngstown, Niagara Co., Henry Lutts' District, Cora A. Bradley, teacher; 27 pupils.
		P. M.	Youngstown, district near Model City, Elizabeth M. Berkley, teacher; 29 pupils.
	8.	A. M.	Knowlesville, Orleans Co., Graded School, J. F. McNall, principal; 85 pupils.
		P. M.	Millville District, Orleans Co., Ernest A. Roll, teacher; 34 pupils
	9.	A. M.	Spencerport, Monroe Co., Graded School, F. W. Hill, principal; 170 pupils.

9. P. M. Medina, Orleans Co., High School (Evening), Adams Basin, Monroe Co., W. H. Clark, principal; 50 pupils.

12. A. M. South Livonia District, Livingston Co., W. Arthur Turner, teacher; 47 pupils.

P. M. Livonia, Livingston Co., High School, W. H. Cone, principal; 200 pupils.

13. A. M. East Palmyra School, Wayne Co.; 14 pupils.

P. M. Palmyra, Wayne Co., High School, Professor S. D. Armes, principal; 600 pupils.

Evening lecture.

Conesus District, Livingston Co., S. L. McNinch, principal; 90 pupils.

Foot's Corners School, Livingston Co., Josephine Stalee, teacher; 21 pupils.

14. A. M. Boughton Hill District, Ontario Co., Miss Mary T. O'Neil, teacher; 30 pupils.

P. M. East Victor School, O. Smith, teacher; 23 pupils.

Victor, Ontario Co., High School; 300 pupils. (Evening.)

A. M. and P. M. Naples, Ontario Co., Naples High School, Professor W. C. Noll, principal; 225 pupils.

Oct. 15. A. M. Phelps District No. 2, Ontario Co., Miss Emma Saulsbury, teacher; 27 pupils.

P. M. Phelps Union School, Ontario Co., Professor D. D. Edgerton, principal; 330 pupils.

A. M. Canandaigua, Ontario Co., District No. 17, Lucretia Adams, teacher; 22 pupils.

A. M. Canandaigua, District No. 15, Mabel Mersereau, teacher; 11 pupils.

Canandaigua, District No. 14, Cora Parker, teacher; 20 pupils.

P. M. Reed's Corners School, Ontario Co., Julia C. Caplise, teacher; 31 pupils.

16. P. M. Geneva School, Ontario Co., Miss Ellen Beach in charge; 40 to 50 in room.

19. Fayetteville, Onondaga Co., Union School, Professor T. J. House, principal; 338 pupils.

P. M. Manlius Union School came to Fayetteville, Professor E. Neeley, Manlius, principal.

Dwight Stone's District, Oswego Co., Mrs. Francis Gilbert, teacher; 25 pupils.

Lansing, Oswego Co., F. D. Bradley, teacher; 60 pupils.

20. A. M. Oswego Falls, Oswego Co., Maud Marden, teacher; 87 pupils.
P. M. Fulton, Oswego Co., High School, Professor P. G. Clapp, principal; 1,000 to 1,100 pupils.
21. A. M. Volney District No. 7, Oswego Co., Mrs. Flora S. Davis, teacher; 27 pupils.
Volney District No. 4, Lilian Hollunbeck, teacher; 19 pupils.
Volney District No. 3, Mrs. Anna Fradenburg, teacher; 30 pupils.
22. Mexico, Oswego Co., High School, Professor A. W. Skinner, principal; 300 pupils.
23. A. M. Allendale District, Adams P. O., Jefferson Co., Clarence Pitts, teacher; 35 pupils.
P. M. Adams, Jefferson Co, Miss M. J. Saulsbury, principal; 250 pupils.
24. Watertown, Jefferson Co., Horticultural school.
26. A. M. New Hartford, Oneida Co., District No. 10, Leon E. Jinks, teacher; 33 pupils.
P. M. New Hartford, District No. 7, Miss Augusta Light, teacher; 14 pupils.
27. A. M. New Hartford Union School, Professor G. Spaulding, principal; 300 pupils.
P. M. New Hartford Union School.
Hornellsville, Steuben Co., District No 12, Miss Cassie Cunningham, teacher; 20 pupils.
28. A. M. Arkport, Steuben Co., High School, H. W. Harris, principal; 150 pupils.
P. M. Canisteo, Steuben Co., High School, Professor W. D. Hood, principal; 500 pupils.
Evening. Hornellsville High School, Professor W. R. Prentice, superintendent.
29. A. M. Rheims, Steuben Co., Pleasant Valley District, Miss Minnie E. Pierce, principal; 60 pupils.
P. M. Hammondsport, Steuben Co., High School, Professor E. L. Monroe, principal; 300 pupils.

The plan of effort in this teaching was to visit two schools during the day, one in the forenoon and one in the afternoon. The arrangements were made in advance with the school commissioner or the trustees, and the fact that the speakers were to be at the school-house was ordinarily announced some days in advance so that parents and friends could visit the school at that time if they chose. The teacher was in every case willing to omit the regular exercises for an hour or two in order that our instructors might take up the work of object teaching with the children. The motive in this work was to find out just how the pupils could be reached by means of object-lesson teaching, and just how much interest they would be likely to manifest in agricultural matters in case it were ever found to be desirable to introduce such teaching as a part of the district school work. The instructor would first explain the reason for his coming and give the school to understand that no new text-books were for sale and that no new classes were to be required at the hands of the teacher. He then ordinarily took up some simple object lesson. It might be in one place a stalk of corn which he had in his hand and the process of growth of which he would explain from seed to harvest; it might be in another case the germination of a bean or a pumpkin seed; it might be in another case the habits or structure of a potato bug or some other insect; it might be, again, the reasons why there were knots and knot holes in the woodwork in the school-house; it might be a very elementary talk upon the different plant foods which are in the soil; it might be in other cases a very brief sketch, with charts, of some fungus; and so on. These exercises were uniformly well received by both the pupils and the teachers and this work has, I think, awakened more inspiration in the minds of our instructors than any other attempt which we have yet made to reach the people. The teachers in the schools have without exception expressed themselves as willing and desirous of taking up some such simple exercises as a rest for the pupils two or three times a week, if only they themselves could be instructed in the proper methods of carrying on the work. In order to afford this instruction to the teachers, we are now proposing to issue a series of experimental leaflets on object lessons and place these in the hands of the teachers.

There is no doubt of the necessity for work of this kind with the children. The love or antipathy of the farm is engendered at a very early age in the minds of the young. This has been demonstrated in these October meetings when we have asked those children who live on farms and who still desire to do so to raise their hands, and we almost uniformly find that the number who desire to live on farms is far less than those who actually do live on them. With these children, ranging from six to fifteen years of age, the question of pecuniary profits upon the farm has appealed very little, but they are influenced directly by the environments under which they are living. These environments must be improved; and if they are, there is every reason to expect that children will love the country better than the city. We have thought, therefore, that it is eminently worth the while to instill the love of nature and the knowledge of living things in the minds of the children; and by so doing we are fully convinced that we shall also be spreading the very same knowledge and impulse to the parents of these children. In fact, all the instructors whom we have had in the field during the present year are fully convinced, I think, that the fundamental method in improving the agricultural status is to begin with genuine and attractive nature-education in rural schools. As soon as a genuine interest in these matters is awakened in the children and teachers, school gardens, cabinets of plants, insects and minerals, and other enterprises will cluster about the school-center, and the influence thereof will spread throughout the country side.

A report of this October work by Mr. Powell is herewith submitted:

"That the agriculture of New York State has been seriously depressed for several years, there is no question; that this has affected the condition of the rural population unfavorably is also recognized. It is, however, difficult to see wherein legislation can be obtained that will materially change the present conditions, except upon some educational lines that would enable those engaged in agriculture, through greater knowledge, to more successfully meet some of the difficulties attending production, the interests of consumers being here closely connected with that of producers of food supplies.

"There has been a belief that our educational system, excellent as it is, could be made of greater value to the individual by helping him to obtain a closer knowledge of some of the forces of nature which contribute so largely to the necessities and comforts of life. While our country schools have instructed children in the common and higher English branches, and, in many instances, have taught some of the principles of natural science, but little attempt has been made to give science instruction with its application made to living things or to those pertaining to the active affairs of life.

"Under the auspices of the committee, known as the Committee for the Promotion of Agriculture, organized in New York in 1895, for the promotion of agriculture and of agricultural education, the experiment was tried of giving a course of lectures on natural sciences applied to agriculture in the district and high schools of Westchester county. The work proved of practical value, and a demand came upon this committee to extend it to many other sections in the state. It was thought by the New York committee that Cornell University, having such a complete equipment for scientific instruction and able teachers in agriculture, could render valuable service to the entire State by extending this line of instruction, and combining with its experiment and investigation work that of instruction in some of the principles of agriculture on the University Extension plan.

"During the month of October, 1896, this work was given to a number of schools in the different counties comprising the Fourth Judicial Department, under the provisions of the Nixon bill, for the extension of horticultural knowledge and instruction. Two classes of schools were reached: those in the rural districts and the union free schools. A district school would be visited in the morning, and in the afternoon a union or high school. Two lectures were given in each, namely, on plant and insect life. Observation lessons were given pupils, while methods of teaching these subjects were given the teachers. The most familiar objects were chosen from the plant life of the school district. Seeds representing familiar plants were germinated and placed in the hands of pupils for observation and study. The full corn in the ear was shown to illustrate what had taken place since the germination of the seed. Lectures on insects were given, choosing the familiar and injurious kinds of the district (those that do direct and serious damage to crops and to vegetation), giving their history, the different transformations through which they pass, and instruction on how to save the losses they cause. To the higher pupils, lectures were given on the beneficial insects, their relation to the flowers, and how they are an important factor in the fruitfulness of orchards and vineyards, in the distribution of pollen of different flowers, in cross-fertilization and formation of the seeds of plants; also on the relation of the soil to all forms of life, vegetable and animal, its important elements in plant food and how it can be studied in an elementary manner. Teachers were given instruction by objects and illustrations on how these subjects could be taught, without multiplying studies or exercises or without text-books, by dropping some regular exercise once or twice a week and putting in a twenty-minute natural science period as incidental work. Thus, during a term, much valuable instruction can be given on important topics without adding to the crowded demands upon teachers and pupils, and in so doing the entire work of the school will be advanced in interest and in efficiency.

"This work has been, without exception, received favorably and with interest by teachers, pupils, officers and patrons of the schools who have come to listen to this course of lectures. In some instances, in the rural districts, farmers have been present who were school trustees, and at the close of the exercises one said publicly in speaking of the work done that 'if he and his neighbors could have had that kind of instruction when they were boys, they would have been in a far more prosperous condition as farmers to-day.' In some places, notably in districts near where a horticultural school had been held the previous month, the school-house was beautifully decorated with autumn leaves, with boughs of apples hanging on the walls of the schoolroom, flowers and plants brought in for the occasion, while the fruits of the orchard and of the garden were piled upon the teacher's desk and on the floor to be correctly named and to ascertain the causes of some diseases and blights that were afflicting them; and in such cases there was a marked attendance of the patrons of the school. In several schools a vote was taken to ascertain the number of pupils who lived upon farms, both in district and high schools, and a further test vote taken to ascertain how many were satisfied to live on the farm and desired to do so when they had finished their school work. In some places the astonishing fact was met that not one hand went up or one vote was given in favor of living on the farm. This is a significant and vitally important fact brought out in this experimental educational work. These school children from the farm expressed the simple, honest convictions of their hearts that they were not satisfied with farm living and intended to get away from it in the future when opportunity might offer. Yet these children from the farms showed no lack of interest in the subjects as they were presented to them and showed an active interest in answering questions that pertain to some of the interesting things about the farm.

"This is but a corroboration of the facts obtained in the recent investigation touching the condition of the rural population made by the New York Committee for the Promotion of Agriculture—that seventy per cent. of the replies received in this inquiry indicated a tendency on the part of the rural population to go to the city. An important question here arises. What is to be the future of our rural schools and of the agriculture of the State if the present generation, as seems so clearly indicated, is not satisfied with rural life and feels no interest in maintaining or contributing to the agricultural and educational interests of the State? While many more rural school-houses must become deserted, there are thousands of children already in our cities who are deprived of school advantages because adequate room does not exist for them to get into the schools of the city. The further problem also arises of the difficult economic questions to be met in our cities as the result of congestion of population. The standard of teaching has been much improved in New York State. It has been gratifying to meet so universally teachers who are not only well qualified, but who are doing excellent work in their schools and who have the true teaching spirit. Our educational forces are thoroughly efficient and well equipped, but there is a need of different application of our school work in rural districts. The life of the district needs to be changed and it can in no way be so effectively done as through our schools. The best work cannot be done in schools with an attendance of only half a dozen children. School districts will be forced to even greater consolidation in the future, and it would be desirable if families could also be consolidated, for it is the lack of social opportunity that is felt. It is the isolation of the farm home that the boy and girl dislikes in these days of close communication and contact with the world which is brought about by steam and electricity. School grounds could be enlarged. They should furnish the opportunity for planting trees and shrubs; for the planting of seeds and growing of flowers; for having a nicely-kept lawn, and in time, these things, with their influences would extend to the homes of children who do not have them and bring them those attractions and interest that make a home what it ought to be—pleasant and inviting in its surroundings. With some principles taught that apply to the life of the farm in its various forms, much that is to-day discouraging, unprosperous and almost hopeless will be gradually changed to better conditions, and general and permanent prosperity will follow.

"The great need in this work is teachers fitted for it. Many excellent teachers have felt their want of preparation for this kind of teaching, but our normal schools are already giving some instruction in nature-teaching, and by carrying the system somewhat further can render the state an invaluable aid in this direction.

"The instructors furnished by Cornell University in this work have shown excellent adaptability in it, and while scientific instruction has been given, it has been made to meet the understanding and interest of all, even the youngest in the primary grades. This work in the schools in the counties lying within the Fourth Judicial District has met with even a larger measure of interest than in Westchester county. In that county most farmers look upon their farms as holding a special value outside of farming purposes, hence most farms are for sale at any time; while out in the State the interest in land is more permanent and this has awakened a general and active interest in this line of instruction in every school and school district where it has been given. The plan has been accepted, not only as practical by those who have witnessed its workings, but as helpful to all whatever may be the work they will take up in life. As a system of instruction, it will bring experiences of delight to children in their school days, such as they have not before known, in the many interesting subjects in nature that will be brought out to them to know and to study about.

"The future value to the State of this kind of instruction can hardly be measured. With some exceptions, the farms of New York are in a condition of sadly depleted fertility of the soil. Nearly everywhere is to be observed the absence of that most valuable renovator of the soil—the clover plant—and in its place a low type of herbage of little value. The cost of production is thereby much increased and the profits in farming consequently largely reduced. Many of the children living on the farms of New York are practically disinherited from the soil upon which they have been born because of the mistakes of their fathers. But while the soil is depleted, it is by no means exhausted of fertility; and by the study of its necessities, and by the employment of skill and intelligence in the art of agriculture, it is capable of vast improvement, of maintaining a great population and adding to the greater prosperity of those who shall cultivate it while contributing to the general prosperity and wealth of the state. The future of the agriculture of the Empire State can be determined through educational forces, and our public schools can be made a most certain and powerful factor in its elevation to a much higher position of prosperity."

The following are samples of many unsolicited letters showing how this type of efforts appeals to teachers:

"Your visit to our school has been very pleasantly discussed by many of our students and teachers. I think that I may say by the more intelligent ones. I believe it sowed seed for thought and in good ground.

"We have perhaps seventy-five students from farms and presumably among the best of them, and I am of the opinion that a day or a half day spent by them under the instruction of your department, by coming to us, will be sowing seeds that will yield some sixty and some a hundred fold.

"I want to express myself in favor of such work being done in schools like ours in the State.

Most respectfully yours,
B. G. CLAPP,
Principal Fulton High School."

Fulton, Oct. 28, 1896.

"I send you under separate cover a number of letters written by some of the children whom you addressed. They are sent you just as written by the pupils without assistance and are self-explanatory.

"We will be pleased to use whatever help you can give us for our general work which comes about once in two weeks.

"The impression you made upon the boys and girls here was excellent.

Yours with respect,
WM. C. NOLL,
Principal Naples Union School."

Naples, November 16, 1896.

"Our children and teachers were so interested in the work presented by Mr. Powell and his assistants, that we write to thank the Horticultural Department, through you, for the incentive to work along the lines they so ably indicated, and the many hints as to ways and means. We wish we might have still further instruction.

"Thanking the Department again, for the added interest we shall take in the teaching of noxious insects, the necessity for fresh air, and plant life of the region,

I am, sincerely,
MARY J. SALISBURY,
Principal."

Adams, November 3, 1896.

"It is with pleasure that I express to you my hearty approval of the work presented to our school by your instructors.

"The pupils were much interested and I believe that the introduction of the study into our schools must certainly meet with very practical results.

Very truly yours,
H. W. HARRIS,
Principal Union School."

Arkport, November 2, 1896.

Intimately associated with these two attempts to teach the rural communities by personal means, has run the effort to awaken a living interest in the reading of bulletins and books. We have therefore recommended, in every one of our schools and meetings, that the farmers procure certain reading matter for study and reflection during the winter time. We have printed circulars of suggestions for these courses of reading, a copy of which is here reprinted:

SUGGESTIONS FOR

A COURSE OF READING.

UPON SUBJECTS RELATING TO HORTICULTURE (MORE ESPECIALLY TO FRUIT GROWING).

(SECOND EDITION)

Most of the reading of farmers is of such a scattered and haphazard character, that the reader is unable to obtain any consecutive or fundamental ideas upon the various subjects. It is suggested that each local farmer's club, grange or horticultural society—or a neighborhood gathering, when other organizations do not exist—take up a prescribed line of reading and thinking for the coming winter.

The company which desires to take up such a course should be thoroughly organized, and each reader should secure and own the various bulletins and books which are to be read. At each meeting a prescribed number of pages is laid out to be read before the next gathering. Upon coming together, the leader asks a member to read the first paragraph of the exercise or lesson, and to give his opinion of the same. Discussion is then called for. Each paragraph is treated in similar manner.

It is obvious that one of the best subjects to select for the first readings is the soil and its management. Three or four meetings could be very profitably spent upon this general topic. From this, it would be well to pass to the fertilizing of the land. After this, various special topics could be taken up, depending upon the interests in the locality.

The course of reading suggested in this circular is designed for introduction following the Schools of Horticulture which are held in western New York (the Fourth Judicial Department), under the auspices of the Nixon or Experiment Station Extension Bill, which provides funds for disseminating horticultural knowledge in this territory. The circular, therefore, has no suggestions for reading in subjects pertaining to general farming and stock farming, although the silo has been mentioned because it may become such a valuable adjunct to the maintaining of the fertility of many horticultural farms. The readings are designed to be merely elementary and introductory. The time cannot be far distant when a well-organized series of agricultural reading circles, and correspondence instruction, will be demanded. The present suggestions cannot be more than temporary expedients; and as soon as any company or club desires more extended study, other bulletins and books will be recommended.

Only such bulletins have been recommended in this list as are published in this State (by the State Experiment Station at Geneva, and the Cornell Experiment Station at Ithaca), and only those, too, which are of a general nature, or those which can be called reading bulletins rather than reference or technical bulletins. There are other reading bulletins published by these stations which have not been recommended because they are out of print. It is hoped that the reading of these bulletins may lead to the reading of books, where the subjects are set forth in more fullness.

L. H. BAILEY,
Ithaca, N. Y.

SOILS AND TILLAGE:

Bulletin 119, Cornell. The Texture of the Soil (L. H. Bailey).
Bulletin 120, Cornell. The Moisture of the Soil and its Conservation (L. A. Clinton).
Bulletin 72, Cornell. The Cultivation of Orchards (L. H. Bailey).
"The Soil," by F. H. King. The Macmillan Co., New York. 75c.

MANURES AND FERTILIZERS:

Bulletin 94, State Station. The Composition and Use of Fertilizers (L. L. Van Slyke).
Bulletin 103, Cornell. Soil Depletion in Respect to the Care of Fruit Trees (I. P. Roberts).
Bulletin 102, State Station. Silage and Silos (W. P. Wheeler).
"The Fertility of the Land," by I. P. Roberts. (In press).

FRUITS AND THEIR CULTIVATION:

Bulletin 69, Cornell. Hints on the Planting of Orchards (L. H. Bailey).
Bulletin 102, Cornell. General Observations Respecting the Care of Fruit Trees (L. H. Bailey).
"Fruit Culture," by W. C. Strong, Rural New Yorker, N. Y. $1.
Bulletin 84, Cornell. The Recent Apple Failures of Western New York (L. H. Bailey).

Bulletin 74, Cornell. Impressions of the Peach Industry in Western New York (L. H. Bailey).

Bulletin 100, Cornell. Evaporated Raspberries in Western New York (L. H. Bailey). Gives a general account of evaporators, and of raspberry growing.

Other writings upon special fruits will be recommended if desired.

SPRAYING, INSECTS, DISEASES:

Bulletin 86, Cornell. The Spraying of Orchards (E. G. Lodeman).

Bulletin 101, Cornell. Notions about the Spraying of Trees; with Remarks on the Canker-worm. (L. H. Bailey).

"The Spraying of Plants," by E. G. Lodeman. The Macmillan Co., New York. $1.

THE MAKING OF HOME GROUNDS:

Bulletin 121, Cornell. Suggestions for the Planting of Shrubbery (L. H. Bailey).

Bulletin 90, Cornell. China Asters; with Remarks upon Flower-Beds (L. H. Bailey).

HELPS FOR TEACHERS:

"Elements of Botany," by J. Y. Bergen. Ginn & Co., Boston. "Familiar Trees and Their Leaves," by Schuyler Mathews. D. Appleton & Co., N. Y. "Plant Life on the Farm," by Maxwell T. Masters. Orange Judd Co., New York. "Chemistry of the Farm," by R. Waddington. Orange Judd Co., New York.

Every grange or farmer's club should be slowly accumulating a library of good rural books for purposes of reference. Advice will be given when desired.

This circular is simply an advisory one, although we are convinced that it has already awakened a genuine interest in many quarters in its subject. We find that there are very few rural books which are adapted to the needs of children or which can be put in the hands of teachers in the country schools. We have therefore conceived of a series of leaflets upon object lessons, dealing with common things, which may be put in the hands of teachers, and, when desired, of pupils as well. We have preferred that these little texts be not read to the pupils as stories, but that they shall answer as suggestions to the teachers who shall have the children perform the simple experiments and to make the direct observations which are there indicated. One of these leaflets is herewith reprinted:

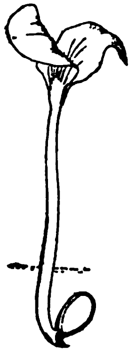
TEACHER'S LEAFLETS
FOR USE IN THE RURAL SCHOOLS
PREPARED BY
THE AGRICULTURAL EXPERIMENT STATION
OF CORNELL UNIVERSITY,
ITHACA, N. Y.

No. 1.
DEC. 1, 1896.

Issued under the auspices
of the Experiment Station
Extension, or Nixon Law.
BY L. H. BAILEY.

HOW A SQUASH PLANT GETS OUT OF THE SEED.

BY L. H. BAILEY.



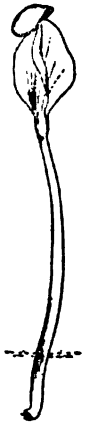
1. Squash plant a week old.

If one were to plant seeds of a Hubbard or Boston Marrow Squash in loose warm earth in a pan or box, and were then to leave the parcel for a week or ten days, he would find, upon his return, a colony of plants like that shown in Fig. 1. If he had not planted the seeds himself or had not seen such plants before, he would not believe that these curious plants would ever grow into squash vines, so different are they from the vines which we know in the garden. This, itself, is a most curious fact — this wonderful difference between the first and the later stages of all plants, and it is only because we know it so well that we do not wonder at it.

It may happen, however,—as it did in a pan of seeds which I sowed a few days ago—that one or two of the plants may look like that shown in Fig. 2. Here the seed seems to have come up on top of the plant, and one is reminded of the curious way in which beans come up on the stalk of the young plant. If we were to study the matter, however,—as we may do at a future time,—we should find a great difference in the ways in which the squashes and the beans raise their seeds out of the ground. It is not our purpose to compare the squash and the bean at this time, but we are curious to know why one of these squash plants brings its seed up out of the ground whilst all the others do not.

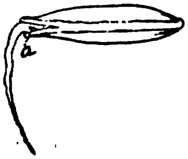
Note.—These leaflets are intended for the teacher, not for the scholars. It is their purpose to suggest the method which a teacher may pursue in instructing children at odd times in nature-study. The teacher should show the children the objects themselves—should plant the seeds, raise the plants, collect the insects, etc.; or, better, he should interest the children to collect the objects. Advanced pupils, however, may be given the leaflets and asked to perform the experiments or make the observations which are suggested. The scholars themselves should be taught to do the work and to arrive at independent conclusions. Teachers who desire to inform themselves more fully upon the motives of this nature-study teaching, should write for a copy of Bulletin 122, of the Cornell Experiment Station, Ithaca, N. Y.

In order to find out why it is, we must ask the plant, and this asking is what we call experiment.

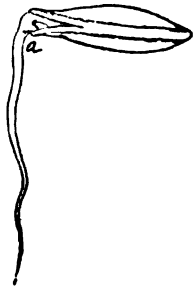


1. Squash plant which has brought the seed-coats out of the ground.

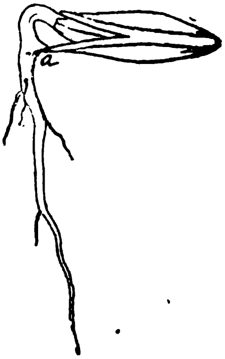
3. Germination just beginning.



4. The root and peg.



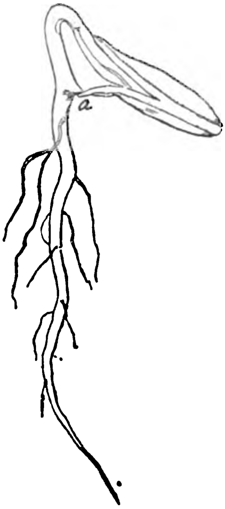
5. Third day of root growth.



6. The plant breaking out of the seed.

We may first pull up the two plants. The first one (Fig. 1) will be seen to have the seed still attached to the very lowest part of the stalk below the soil, but the other plant has no seed at that point. We will now plant more seeds, a dozen or more of them, so that we shall have enough to examine two or three times a day for several days. A day or two after the seeds are planted, we shall find a little point or root-like portion breaking out of the sharp end of the seed, as shown in Fig. 3. A day later this root portion has grown to be as long as the seed itself (Fig. 4), and it has turned directly downwards into the soil. But there is another most curious thing about this germinating seed. Just where the root is breaking out of the seed (shown at *a* in Fig. 4), there is a little peg or projection. In Fig. 5, about a day later, the root has grown still longer, and this peg seems to be forcing the seed apart. In Fig. 6, however, it will be seen that the seed is really being forced apart by the stem or stalk above the peg for this stem is now growing longer. The lower lobe of the seed has caught upon the peg (seen at *a*, Fig. 6), and the seed-leaves are trying to back out of the seed. Fig. 7, shows the seed still a day later. The root has now produced many branches and has thoroughly established itself in the soil. The top is also growing rapidly and is still backing out of the seed, and the seed coats are still firmly held by the obstinate peg.

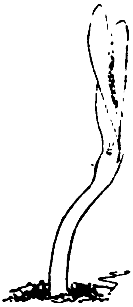
Whilst we have been seeing all these curious things in the seeds which we have dug up, the plantlets which we have not disturbed have been coming through the soil. If we were to



7. The operation further progressed.

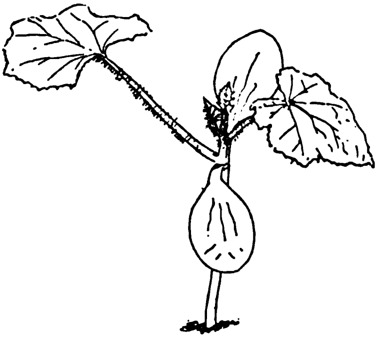
8. The plant just coming up.

9. The plant liberated from the seed-coats.

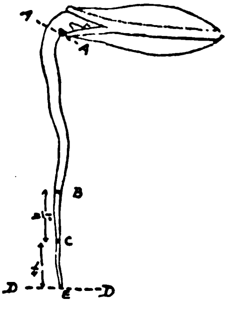


10. The plant straightening up.

see the plant in Fig. 7, as it was "coming up," it would look like Fig. 8. It is tugging away trying to get its head out of the bonnet which is pegged down underneath the soil, and it has "got its back up" in the operation. In Fig. 9, it has escaped from its trap and it is laughing and growing in delight. It must now straighten itself up, as it is doing in Fig. 10, and it is soon standing proud and straight, as in Fig. 1. We now see that the reason why the seed came up on the plant in Fig. 2, is because in some way the peg did not hold the seed-coats down (see Fig. 13), and the expanding leaves are pinched together, and they must get themselves loose as best they can.



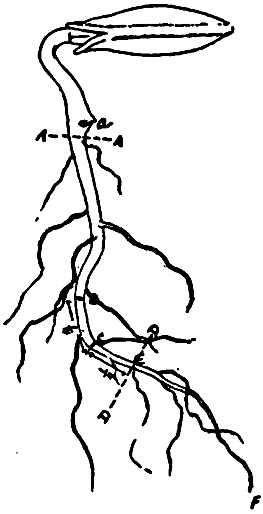
11. The true leaves developing.



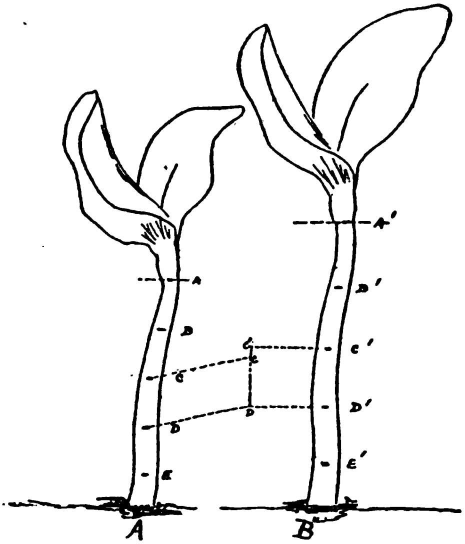
12. Marking the root.

There is another thing about this curious squash plant which we must not fail to notice, and this is the fact that these first two leaves of the plantlet came out of the seed and did not grow out of the plant itself. We must notice, too, that these leaves are much smaller when they are first drawn out of the seed than they are when the plantlet has straightened itself up. That is, these leaves increase very much in size after they reach the light and air. The roots of the plantlet are now established in the soil and are taking in food which enables the plant to grow. The next leaves which appear will be very different from these first or seed leaves.

These later ones are called the true leaves. They grow right out of the little plant itself. Fig. 11 shows these true leaves as they appear on a young Crookneck squash plant, and the plant now begins to look much like a squash vine.



13. The root grown in the end portions.



14. The marking of the stem, and the spreading apart of the marks.

We are now curious to know how the stem grows when it backs out of the seeds and pulls the little seed-leaves with it, and how the root grows downwards into the soil. Now let us pull up another seed when it has sent a single root about two inches deep into the earth. We will wash it very carefully and lay it upon a piece of paper. Then we will lay a ruler alongside of it, and make an ink mark one-quarter of an inch from the tip, and two or three other marks at equal distances above (Fig. 12).* We will now carefully replant the seed. Two days later we will dig it up, when we shall most likely find a condition something like that in Fig. 13. It will be seen that the marks E, C, B, are practically the same distance apart as before and they are also the same distance from the peg, AA. The point of the root is no longer at DD, however, but has grown on to F. The root, therefore, has grown almost wholly in the end portion.

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*Note.—Common ink will not answer for this purpose because it "runs" when the root is wet, but indelible ink, used for marking linen or for drawing, should be used. It should also be said that the root of the common pumpkin, and of the summer bush squashes, is too fibrous and branchy for this test. It should be stated, also, that the root does not grow at its very tip, but chiefly in a narrow zone just back of the tip; but the determination of this point is rather too difficult for the beginner.

Now let us make a similar experiment with the stem or stalk. We will mark a young stem, as at A in Fig. 14; but the next day we shall find that these marks are farther apart than when we made them (B, Fig. 14). The marks have all raised themselves above the ground as the plant has grown. The stem, therefore, has grown between the joints rather than from the tip. The stem usually grows most rapidly, at any given time, at the upper or younger portion of the joint (or internode); and the joint soon reaches the limit of its growth and becomes stationary, and a new one grows out above it.

Natural science consists in two things—seeing what you look at, and drawing proper conclusions from what you see.

Respecting the general necessity and requirements for such reading course, I submit the following report from Mr. John W. Spencer, who has been intimately associated with this district school work and who is at the present time aiding us in conducting a correspondence instruction:

"As you well know, a reading course for farmers on agricultural topics, after the plan of the Chautauqua course, has long been a cherished plan of mine, and when you asked me to go with Mr. Geo. T. Powell during the month of October, I gladly accepted, for it seemed to be a good opportunity to test the practicability of the idea. I still think it a good one, but the month's experience has shown me another plan more expedient for the time and giving more lasting and practical results. I do not suggest the abandonment of the plan for a reading course, but that it be held in abeyance as a sequel to a second plan, which is this: That the College of Agriculture of Cornell University prepare papers for teachers in our common schools qualifying them to develop the powers of observation of pupils on subjects pertaining to the field, forest and household. For instance, give each child a piece of bread and the teacher draw out everything appealing to the child's eye. The teacher could supplement many points the child failed to observe. Then begin an inquiry as to why such and such points come to be so,—begin a study of the cause. The study into the cause of the perosity of the bread could be made to lead, step by step, to the whole chemistry of baking, and from that to starch and its frequency and great importance.

"I do not suggest that these exercises be made an added recitation, but a rest exercise of twenty minutes for once or twice each week. A clever teacher can give such subjects a wide range of adaptability from primary to nearly the highest grade. Themes can be made of some of the most familiar subjects involving chemistry, insect, plant life, and geology, arousing observation and a spirit of inquiry as to cause. It is not the superstructure that I think this plan would build, but the foundations for the superstructure, which is most important. Introduced into the schools, there would be a double benefit,—first upon the child, and then when he went home and talked about it with his parents they too would unconsciously become pupils. This last may seem merely incidental but I am sure that the aggregate results will be immense. It takes only five to eight years to raise a crop of boys and girls to the point where the majority of them are thinking of their qualification of getting their own living, and their preparation will be vastly enhanced, particularly for farm life, if they have developed an inquiring spirit to know the why of things.

"During the month of October I visited, either alone or with Mr. Powell, forty-two schools, representing an attendance of 4,687 pupils, located in the counties of Chautauqua, Erie, Niagara, Monroe, Livingston, Ontario, Steuben, Oswego, Jefferson and Oneida, and the schools have ranged from the brick temple of one thousand pupils to the little school-house of eleven. The children everywhere are alike,—all eager for instruction, and so are the teachers, except some with only one or two years' experience, who feel a lack of preparation and fear that they might not do the proper thing, but when assured that the plan of observation exercises was to reach the children only by fully equipping the teacher, all hesitation was banished. Not a single teacher has made an objection to the plan.

"In conclusion, I would suggest that your department prepare observation exercises in the spirit of the foregoing remarks. To schools employing the highest grade teachers, no solicitation will be necessary more than to present the literature. To the hamlet and district schools an exemplification of the work to the pupils will promote its adoption. I would advise pushing this last industriously during the present winter, depending for its future spread upon the popularity given by those schools visited this winter and by working through such centers as teachers' institutes in the next school year."

This correspondence-instruction is likewise experimental; that is, we are endeavorng at the present time to determine just how it can be carried on under our limitations and for New York State. We have no authority by law to establish a permanent or organic system of reading courses throughout our territory. We have kept the names of the participants in all of our September schools, and we have the names of the teachers and officers in the various rural and village schools which we have visited. In each of these public schools we have requested the teacher to have the pupils write their next compositions upon the subjects which were presented by our instructors, and to forward these compositions to us as samples of the kind and extent of interest which the children may be expected to take in this work. Both teachers and children have responded with surprising readiness, and the correspondence from this source which has already accumulated is large and is an indication that the work can be greatly extended with the most marked benefits. We have also taken the opportunity to write to the various correspondents who have been interested in our work, asking them certain specific questions upon certain bulletins which we have sent them and which have been used as texts in the schools, particularly upon Bulletins 119 and 120 (The Texture of the Soil, and The Moisture of the Soil). This correspondence has been the means of tying together the various agricultural interests of the Fourth Judicial Department and the College of Agriculture of Cornell University, and has resulted in a natural and organic union which, it seems to me, it would be violence to break.

All this work, as I have said, has been experimental,— an attempt to discover the best method of teaching the people in agriculture. We believe that the most efficient means of elevating the ideals and practice of the rural communities are as follows, in approximately the order of fundamental importance: (1) The establishment of nature-study or object-lesson study, combined with field-walks and incidental instruction in the principles of farm-practice in the rural schools; (2) the establishment of correspondence-instruction in connection with reading-courses, binding together the University, the rural schools, and all rural literary or social societies; (3) itinerant or local experiment and investigation, made chiefly as object-lessons to farmers and not for the purpose, primarily, of discovering scientific facts; (4) the publication of reading bulletins which shall inspire a quickened appreciation of rural life, and which may be used as texts in rural societies and in the reading courses, and which shall prepare the way for the reading of the more extended literature in books; (5) the sending out of special agents as lecturers or teachers, or as investigators of special local difficulties, or as itinerant instructors in the normal schools and before the training classes of the teachers' institutes; (6) the itinerant agricultural school, somewhat after the plan of our horticultural schools, which shall be equipped with the very best teachers and which shall be given as rewards to the most intelligent and energetic communities.

All these agencies, to be most efficient, should be under the direction of a single bureau wholly removed from partisan political influence and intimately associated with investigational work in agriculture. Such a bureau should also have most intimate relations with the Department of Public Instrution, for not only must the public schools be reached, but teachers must be trained. The teachers in our public schools are now of a high grade, and they will quickly seize opportunities to prepare themselves to teach the elements of rural science. There should be facilities placed at the disposal of every normal school in the State, whereby it may receive courses of lectures upon rural subjects from teachers of recognized ability, and teaching-helps, in the way of expository leaflets, should be placed in the hands of every teacher who desires them. All this work of carrying the modern university extension impulse to the country, is too important and too fundamental to be confined to any one particular agricultural interest or to any one district of the State; and it is a work, too, which should be treated as a teaching extension and not as an experiment station extension.

In conclusion, I must say that the farmers, as a whole, are willing and anxious for education. They are difficult to reach because they have not been well taught, not because they are unwilling to learn. It is astonishing, as one thinks of it, how scant and poor has been the teaching which has even a remote relation to the tilling of the soil; and many of our rural books seem not to have been born of any real sympathy with the farmer or any just appreciation of his environments. Just as soon as our educational methods are adapted to the farmer's needs, and are born of a love of farm life and are inspired with patriotism, will the rural districts begin to rise in irresistible power.

Respectfully submitted,
L. H. BAILEY,
In charge of the scientific and teaching work of the Nixon bill,
Cornell University, December 1, 1896.

APPROPRIATIONS.

In conformity with the provisions of section 5 of the Agricultural Law, I hereby recommend the following appropriations as necessary for the work of the Department of Agriculture, and for the purpose of agriculture generally in the State for the ensuing year:

For the general work of the Department of Agriculture	$125,000
For the New York State Agricultural Society, for premiums	20,000
For Farmers' Institutes	20,000
For the distribution of money among Agricultural Societies, and the American Institute of the City of New York	56,000
For the general work of the Experiment Station at Geneva	50,000
For the enforcement of the provisions of Chapter 437 of the Laws of 1890 (fertilizers)	10,000
For maintaining the Veterinary College at Cornell University	20,000
For the State Weather Bureau	5,000

For more specific information as to details of the work in the several divisions of the State, please see the reports of the assistant commissioners of the different divisions hereto attached, and the report of the cheese instructors and Director of Farmers' Institutes. I am pleased to say that the assistant commissioners from the different divisions all seem to be men well qualified for the position they hold, and are exhibiting a lively interest in the enforcement of the provisions of the statute. I expect to be able, if granted the financial aid needed and asked for the coming year, to so conduct this Department as to make it an even greater benefit to the consuming public than it has been heretofore.

All of which is respectfully submitted,

C. A. WIETING,
Commissioner of Agriculture.

APPENDIX.

Report of F. J. H. Kracke, Assistant Commissioner.

Report of Henry S. Ambler, Assistant Commissioner.

Report of T. James Owens, Assistant Commissioner.

Report of S. Brown Richardson, Assistant Commissioner.

Report of Charles R. Payne, Assistant Commissioner.

Report of Verlett C. Beebe, Assistant Commissioner.

Report of William T. Hughes, Assistant Commissioner.

Report of Asa L. Twitchell, Assistant Commissioner.

Report of James P. Clark, Assistant Commissioner.

Report of George A. Smith, former Director of Farmers' Institutes, and F. E. Dawley, present Director of Farmers' Institutes.

Financial Reports of Agricultural Societies for 1896.

List of Butter and Cheese Factories in the State, 1896.

Dairy and Food Commissioners, and Laws Relating to Dairy Products of other States.

Agricultural Law.

Report of State Weather Bureau. (Volume 2.)

Report of Experiment Station at Ithaca. (Volume 2.)

Report of Experiment Station at Geneva. (Volume 3.)

REPORT OF F. J. H. KRACKE.

Hon. Charles A. Wieting, *Commissioner of Agriculture:*

Dear Sir.— In submitting this report of the work performed in the second division of this Department during the year ending September 30, 1896, I would like to say that, owing to the fact that I was not appointed to my present position until the 10th day of November, it is work performed in which I have had no hand, except in making up this report. The various recommendations therein I have made after careful consideration, fully understanding the necessity of their speedy adoption.

Oleomargarine.

The surreptitious sale of oleomargarine has, for the last two years, increased during the first four months and the last two months of the year; the balance of the time the price of butter has been sufficiently low to make it little or no object for the wilful violator to run the risk of detection, although the agents of the oleomargarine manufacturers have devised many cunning ways and methods to smuggle this fraudulent article to the people, and when the wholesale price of butter reaches twenty-five cents the sale of oleomargarine increases, and those employed in this division of the Department have to work with utmost diligence and shrewdness, it requiring inspections at night as well as during the day, as many storekeepers and restaurants use butter during the day, but, feeling secure that there would be no inspections in the night, they bring the oleomargarine out of its hiding place and sell it.

It is an indisputable fact that the producer of butter would net on an average from two to three cents a pound more for his goods if the manufacture of oleomargarine was stopped in the United States.

I would respectfully recommend changing of the minimum fine from $25 to $100, and likewise a speedy trial in all such cases.

Milk.

The milk produced in the State and shipped to the cities of New York and Brooklyn has shown but a slight percentage of adulteration. More than 98 per cent. of the milk received from this State has been fully up to the State standard, which is 12 per centum of milk solids, three parts of that being fat, and the small percentage that showed adulteration was adulterated only 5 to 10 per cent.

The wholesale and retail dealers in the cities have almost abandoned the practice of watering milk, which was so generally done in the past years.

A number of prosecutions for violation of the law have been made during the year which have largely been people handling milk produced in Connecticut, New Jersey and Pennsylvania, which in all probability was adulterated by the shipper before consigning to the dealer.

As the law does not reach the shipper in such cases, there is no other remedy except to prosecute the retail dealers, who sell the milk within the State.

Heretofore, receivers of adulterated milk could be successfully prosecuted, but during the past year or two the courts have refused to hold that it is an offense for any one to have adulterated milk in their possession; therefore, as the Agricultural Law does not make it an offense for any person to have adulterated milk in their possession, the courts have discharged the persons arrested in all cases where it could not be proven that milk had been offered for sale or sold by the wholesale dealer; and as most of the milk is handled by them, it is exceedingly difficult to obtain sufficient evidence to convict the wholesaler. Hence, the burden falls upon the retail dealer who cannot protect himself and is absolutely helpless, unless section 22 of chapter 33 of the General Laws of the State of New York be so amended as to make it an offense for anyone to have adulterated milk in their possession. This would enable the Department to prosecute the offending wholesale dealers, who, whether innocent or guilty parties to the offense, could easily obtain redress from the persons who consigned them contraband milk, whether the consignee was in this State or in a neighboring one.

In conclusion, it would probably be in order to say a few words upon the subject of the State standard. It is alike of vital importance to the agricultural community and the consumer. The 3 per cent. fat standard has the hearty and undivided support of all dealers and their representative organizations. Lowering the standard would be a fallacy and, it is spoken advisedly, it would be doing an injustice to a large majority of milk producers in this State. It naturally would open up a new field for shippers in adjoining States of an inferior grade of milk, which is now barred out on account of our equitable standard, and any change in same might be tampering with a loaded gun, as the official statistics of the total receipts of milk in this district for 1896 is 80,000,000 gallons, of which more than 98 per cent. was up to legal standard. Consequently, this agitation can hardly emanate from the honest producer, but would seem to have its origin from some agency which would absolutely be of no benefit or help to the farmer himself. As for the plan of doing away with the standard entirely, it certainly would open up our markets for all kinds of milk, from a pure milk to a 50 per cent. adulteration, out of which would arise, in a short time, a general dissatisfaction.

Cheese.

The cheese interests will remember this year as a red letter one. The lovers of pure food legislation, and honest enforcement of the same, reaped their reward in having the law for branding filled cheese placed upon the United States statute books; not only the box that surrounds the cheese, but the cheese also must be branded. The New York Mercantile and Produce Exchanges through their committees, namely: W. G. & E. La Mater, C. L. Martin, W. E. Smith and Thomas Shiels, were a powerful factor in having this bill passed, which, in its line, is of as great importance as the Federal Oleomargarine Law to pure butter.

NOTES UPON CHEESE.

The State of New York furnishes almost one-half the total cheese pressed in the United States.

New York and Wisconsin together make over two-thirds of all.

It requires the milk of more than 400,000 cows to make the cheese pressed in this State.

The consumption of cheese is somewhat decreasing.

Good cheese is approximately composed of one-third water, one-third butter fat and one-third casein with some sugar and ash.

Stables.

The customary inspections of stables located in the suburbs of the cities of New York and Brooklyn have been made during the year, also the cows kept therein have been carefully inspected, and in general found to be satisfactory.

The stables likewise being in good condition with a few exceptions, where the persons were notified to make improvements, and same being promptly complied with, has without doubt been the means of keeping the cows in a healthy condition during the past summer. The best absorbents for bedding are peat, spent tanbark, wheat straw, forest leaves and dry earth; the latter must be renewed at short intervals where it is used entirely. Milch cows while in milk require on an average ten gallons of water a day, when not in milk about seven gallons, of which two-thirds goes as drink, the other as food.

Oleomargarine (Statement of Manufacture, Etc.).

The following table, compiled from the statement of the manufacturers for 1886 and the reports of the Commissioner of Internal Revenue, show the amount manufactured and sold during the past nine years, viz.:

	Pounds.
Manufacturers' estimate for the year ending June 30, 1886	100,000,000

	Pounds.
June 30, 1886, to November 1, 1886, estimated at...	3,305,376
Eight months Internal Revenue report, to June 30, 1887	21,694,624
For the year ending June 30, 1887	25,000,000

	Produced.
	Pounds.
On hand November 1, 1886	181,090
During the fiscal year ending June 30:	
1887 (from November 1, 1886)	21,513,537
1888	34,325,527
1889	35,664,096
1890	32,324,033
1891	44,392,409
1892	48,364,155
1893	67,224,298
1894	69,622,246
1895	56,958,105
1896	50,853,234
Total	461,422,659

The following statistics taken from the previous annual reports, showing the amount of butter handled in New York, do not show any increase during the years ending November 1, 1885, 1886 and 1887, but shows that about the same amount was received each year, which is accounted for by the fact that oleomargarine was formerly shipped by the manufacturers and dealers as butter, and entered into the statistics as such, there being no way to separate the two. In addition to the oleomargarine received from other States and included in the figures hereinafter given, there was a large quantity made in the city and State of New York previous to 1886, not included in these figures; therefore, the increased production of butter for the New York market within the past five years has equaled the amount of oleomargarine formerly consumed, and has also supplied the increase of the population with butter as well as the increased amount for export previously noted.

The following statistics show the number of pounds and value of butter received in New York city yearly, from 1882 to 1884, inclusive, copied from the last annual report, and may be of interest as showing the decline from 1882 to 1885, and the advance from 1885 to 1888, and for comparison with the receipts and value of the product handled during the years ending October 31, 1889, 1890, 1891, 1892, 1893, 1894, 1895 and 1896.

Receipts and Value of Butter Handled in New York City for Fifteen Years Ending October 31, 1896.

FOR THE YEAR ENDING OCTOBER 30, 1882.

Eastern, 44,215,990 pounds, valued at 29½ cents per pound	$13,043,717 05
Western, 35,648,850 pounds, valued at 28 cents per pound	9,981,678 00
Total, 79,864,840 pounds, valued at	$23,025,295 05

FOR THE YEAR ENDING NOVEMBER 30, 1883.

Eastern, 4,804,060 pounds, valued at 26 cents per pound	$11,649,055 60
Western, 45,743,850 pounds, valued at 26 cents per pound	10,978,524 00
Total, 90,547,910 pounds, valued at	$22,627,579 60

FOR THE YEAR ENDING NOVEMBER 30, 1884.

Eastern, 38,263,820 pounds, valued at 24½ cents per pound	$9,374,635 90
Western, 49,853,350 pounds, valued at 22½ cents per pound	10,967,737 00
Total, 80,117,170 pounds, valued at	$20,342,372 90

FOR THE YEAR ENDING OCTOBER 31, 1885.

Eastern, 39,480,350 pounds, valued at 22 cents per pound	$8,685,677 00
Western, 54,086,500 pounds, valued at 22 cents per pound	10,817,300 00
Total, 93,566,850 pounds, valued at	$19,502,977 00

FOR THE YEAR ENDING OCTOBER 31, 1886.

Eastern, 38,985,520 pounds, valued at 23½ cents per pound	$9,161,597 20
Western, 54,716,000 pounds, valued at 21½ cents per pound	11,763,940 00
Total, 93,701,520 pounds, valued at	$20,925,537 20
Deduct value of product handled in 1885	19,502,977 00
	$1,422,560 20
Total value of milk and cream handled in New York for the year ending October 31, 1886	$8,160,750 00

FOR THE YEAR ENDING OCTOBER 31, 1887 (BUTTER, MILK AND CREAM).

BUTTER.

Eastern, 37,062,130 pounds, valued at 24 cents per pound	$8,894,911 20
Western, 56,650,350 pounds, valued at 22 cents per pound	12,463,077 00
Total, 93,712,480 pounds, valued at	$21,357,988 20

MILK AND CREAM.

Value of milk and cream	$9,499,900 00
Total value of butter, milk and cream	$30,857,888 20
Deduct value of butter, milk and cream handled in 1886	29,086,287 20
Net gain in 1887 over 1886	$1,771,601 00
Add net gain in cheese of 1887 over 1886	687,843 00
Total net gain on butter, cheese, milk and cream handled in New York in 1887 over 1886	$2,459,444 00

FOR THE YEAR ENDING OCTOBER 31, 1888 (DAIRY PRODUCTS).

BUTTER.

Eastern, 31,784,410 pounds, valued at 24½ cents per pound	$7,787,180 45
Western, 63,457,950 pounds, valued at 22½ cents per pound	14,278,038 75
Total, 95,242,360 pounds, valued at	$22,065,219 20

CHEESE.

Eastern, 98,877,955 pounds, valued at 10½ cents per pound	$10,362,185 27
Western, 3,637,260 pounds, valued at 8½ cents per pound	309,167 10
In transit for export 7,636,850 pounds, valued at 10 cents per pound	763,685 00
Total, 110,152,065 pounds, valued at	$11,455,037 37

MILK.

Crude, gallons	58,678,390
Cream, gallons	1,191,940
Condensed milk (Pearl), gallons	71,830
Total gallons (valued at $9,652,500)	60,622,160

Total value of butter handled	$22,065,219 20
Total value of cheese handled	11,455,037 37
Total value of milk and cream handled	9,652,500 00
Total value of butter, cheese, milk and cream	$43,172,756 57
Deduct total value of daily product handled in 1887	43,047,771 02
Net gain in 1888 over 1887	$124,985 55

The gain in value over 1887 is light, for the reason that the average price of cheese has been one cent per pound lower than in 1887, although butter averaged one-half cent higher.

FOR THE YEAR ENDING OCTOBER 31, 1889 (DAIRY PRODUCTS).

BUTTER.

Eastern, 30,626,610 pounds, valued at 23 cents per pound	$7,044,120 30
Western, 77,820,650 pounds, valued at 21 cents per pound	16,342,336 50
Total, 108,447,860 pounds, valued at	$23,366,456 80

CHEESE.

Eastern, 101,712,655 pounds, valued at 10 cents per pound	$10,171,265 50
Western, 3,660,120 pounds, valued at 9 cents per pound	329,410 80
Total, 105,373,775 pounds, valued at	$10,500,676 30

MILK.

	Gallons.
Six million four hundred twenty-one thousand three hundred eighty-seven cans of crude milk of ten gallons	64,213,870
Seventy-six thousand six hundred seven cans unsweetened condensed milk of ten gallons	766,070
One hundred and thirty-two thousand two hundred eighty-four cans of cream of ten gallons	1,322,840
Total gallons (valued at $9,500,000)	66,302,780

According to the estimates of those best informed on the subject there have been 1,500,000 forty-quart cans of milk produced within the State of New York during the year, reported sold to condensers, most of which reached this market in a condensed form in small cans valued in the crude state at $2,175,000, making the total of $11,675,000.

Total value of butter handled	$23,386,456 80
Total value of cheese handled	10,500,676 30
Total value of milk, cream and condensed milk handled	11,675,500 00
Total	$45,562,633 10
Deduct total value of dairy products handled in 1888	43,172,756 51
Net gain in 1889 over 1888 is	$2,389,876 59
Less value of condensed milk in small cans, 1888	2,175,000 00
Net gain	$214,876 59

The receipts of eastern butter for the year ending October 31, 1889, were 1,157,800 pounds less than in the previous year, while the amount of cheese received was 2,834,700 pounds in excess of 1888, showing that just about the same amount of product of the dairy, in butter and cheese, from the State of New York has been marketed as in the previous year.

FOR THE YEAR ENDING OCTOBER 31, 1890 (DAIRY PRODUCTS).

BUTTER.

Eastern, 26,560,660 pounds, valued at 20 cents per pound	$5,312,132 00
Western, 71,094,500 pounds, valued at 18 cents per pound	12,797,010 00
Total, 97,655,160 pounds, valued at	$18,109,142 00

CHEESE.

Eastern, 102,118,115 pounds, valued at 9¾ cents per pound	$9,956,516 22
Western, 3,483,090 pounds, valued at 8 cents per pound	278,647 20
Total, 105,601,205 pounds, valued at	$10,235,163 42

MILK.

	Gallons.
Six million two hundred eighty-five thousand two hundred ninety-four cans crude milk of ten gallons each	62,852,940
Sixty-nine thousand three hundred sixty-seven cans unsweetened condensed milk of ten gallons each	693,670
One hundred thirty-seven thousand three hundred twenty-one cans cream of ten gallons each	1,373,220
There is also produced within the State of New York, and sold during the year, to condensers, most of which reaches this market in condensed form, in small cans, a large amount of crude milk, estimated to be equal to 1,650,000 cans of crude milk of ten gallons each	16,500,000
Total gallons (valued at $12,085,000)	81,419,830

Total value of butter handled	$18,109,142 00
Total value of milk, cream and condensed milk handled	12,085,000 00
Total value of cheese handled	10,235,163 42
Total value of dairy products during year	$40,429,305 42

FOR THE YEAR ENDING OCTOBER 31, 1891 (DAIRY PRODUCTS).

BUTTER.

Eastern, 395,301 packages of 70 pounds (average) 27,671,070 pounds, valued at 21 cents per pound	$6,364,346 10
Western, 1,408,324 packages of 50 pounds (average) 70,416,200 pounds, valued at 21 cents per pound	14,787,402 00
Total, 98,087,870 pounds, valued at	$21,151,748 10

CHEESE.

Eastern, 86,958,200 pounds, valued at 10 cents per pound	$8,695,930 00
Western, 3,331,950 pounds, valued at 9 cents per pound	299,875 50
	$8,995,805 50

MILK.

	Gallons.
Six million three hundred five thousand seven hundred sixty-six cans of crude milk of ten gallons each	63,057,660
Sixty-nine thousand nine hundred eighty-nine cans unsweetened condensed milk of ten gallons each	699,890
One hundred forty-four thousand one hundred ninety-eight cans of cream of ten gallons each.	1,441,930
There is also produced within the State of New York, and sold during the year, to condensers, most of which reaches the New York market in condensed form, in small cans, a large amount of crude milk, estimated to be not less than	17,500,000
Total gallons (valued at $14,128,677)......	82,699,530

Total value of butter handled..................	$21,151,748 10
Total value of cheese handled...............	8,995,805 50
Total value of milk, cream and condensed milk handled	14,129,677 00
Total value of dairy products during the year..................................	$44,277,220 60

The preceding statistics show a material decrease in the number of pounds of butter handled in this city, but as the average price of butter has been 3 cents per pound higher, the total value of the dairy product handled was $3,847,915.18 greater than during the previous year.

FOR THE YEAR ENDING OCTOBER 31, 1892 (DAIRY PRODUCTS).

BUTTER.

Eastern, 414,765 packages of 70 pounds (average) 29,032,930 pounds, valued at...........	$6,967,900 00
Western, 1,248,412 packages of 50 pounds (average) 62,420,600 pounds, valued at...........	13,732,532 00
Total, 91,453,520 pounds, valued at.........	$20,700,432 00

CHEESE.

Eastern, 91,033,950 pounds, valued at 11 cents per pound..................................	$10,013,734 50
Western, 4,736,510 pounds, valued at 10 cents per pound..................................	473,651 00
Total, 93,770,310 pounds, valued at........	10,487,385 50

MILK.

	Gallons.
Seven million forty thousand three hundred forty-two cans of crude milk, of ten gallons each	70,403,420
Sixty-one thousand six hundred ninety cans of unsweetened milk, of ten gallons each.......	616,900
One hundred eighty-two thousand six hundred eighty-nine cans of cream, of ten gallons each,	1,826,890

There is also produced within the State of New-York, and sold during the year to condensers, most of which reaches the New York market in condensed form in small cans, a large amount of crude milk, estimated to be not less than	18,000,000
Total gallons milk, cream and condensed milk	90,847,810

Value of crude milk handled	$10,977,559 97
Value of cream handled	1,050,461 75
Value of unsweetened milk handled	388,647 00
Value of crude milk sold to condensers	2,700,000 00
Total	$15,116,668 72

Total value of butter handled	$20,700,432 80
Total value of cheese handled	10,487,385 50
Total value of milk, cream and condensed milk handled	15,116,668 72
Total value of dairy products handled during the year	$46,304,487 02
The total increase in value of dairy products over value of products handled in 1891 was	$2,077,267 02

The preceding figures show a material increase in the amount and value of eastern dairy products handled in the city of New York during the year, as shown by the following statement:

Butter, increase, 1,361,850 pounds, valued at	$326,844 00
Cheese, increase, 4,074,750 pounds, valued at	446,223 50
Crude milk, cream and condensed milk, increase, 8,147,680 gallons, valued at	986,991 72
Net gain in increased receipts	$1,760,059 22
Net gain in advance of prices over 1892	1,146,302 70
Total gain for year	$2,906,361 92

FOR THE YEAR ENDING OCTOBER 31, 1893 (DAIRY PRODUCTS).

BUTTER.

Eastern, 430,387 packages of 70 pounds (average), 30,126,460 pounds	$7,531,615 00
Western, 1,184,708 packages of 50 pounds (average), 59,235,400 pounds, valued at 23 cents per pound	13,624,042 00
Total pounds, 89,361,860, valued at	$21,155,657 00

CHEESE.

Eastern, 87,380,645 pounds, valued at 11 cents per pound	$9,611,870 95
Western, 4,565,205 pounds, valued at 10 cents per pound	456,520 50
Total, 91,945,850 pounds, valued at	$10,068,391 45

MILK.

	Gallons.
Seven million two hundred forty-six thousand fifty cans of crude milk, of ten gallons each	72,460,500
Fifty-three thousand seven hundred twenty-five cans of unsweetened milk, of ten gallons each,	537,850
Two hundred three thousand seven hundred forty cans of cream, of ten gallons each	8,037,404
There is also produced in the State of New York, and sold during the year to condensers, most of which reaches New York market in condensed form, in small cans, a large amount of crude milk, estimated to be not less than	18,000,000
Total gallons milk, cream and condensed milk	93,033,154

Value of crude milk handled	$11,231,377 50
Value of cream handled	1,894,782 00
Value of unsweetened condensed milk	333,095 00
Value of crude milk sold to condensers	2,790,000 00
Total value	$16,249,254 50

Total value of butter handled	$21,155,657 00
Total value of cheese handled	10,068,391 45
Total value of milk, cream and condensed milk handled	16,249,254 50
Total value of dairy products handled during the year	$47,473,302 95
The total increase in value of dairy products over value of products handled in 1892 was	$1,118,715 93

The statistics of dairy products handled in New York city in 1893 show, by comparison with 1892, that there has been an increase in the quantity of eastern butter received in that city of 1,093,540 pounds, seven-eighths of which was produced in this State, an increase of 2,187,947 gallons of milk, cream and condensed milk; also, that there was a material decrease in the receipts of cheese during the same period, amounting to 3,653,305 pounds. The following table will show the net increase in value of products handled during the year:

Increase in value of butter in 1893 over 1892	$563,714 20
Increase in value of milk, cream and condensed milk, same period	1,132,585 78
	$1,696,299 98
Less decrease in cheese handled	418,994 05
Net increase in 1893 over 1892	$1,279,305 93

Total value of eastern products handled in New York city during the year:

Butter	$7,531,615 00
Cheese	9,611,870 95
Crude milk, condensed milk and cream	16,249,254 50
Total	$33,392,740 45

The following statistics, giving the value of eastern dairy products handled in New York city for the past four years, show an increase in value annually; also, that while the value of eastern products handled has increased over $6,000,000 that the western products handled has increased only $1,000,000. This enormous increase proves conclusively that the dairy laws, and the enforcement of the same has encouraged the farmer to give more attention to dairy farming:

FOR THE YEAR ENDING OCTOBER 31, 1894 (DAIRY PRODUCTS).

The receipts and value of dairy products handled in New York city during the year ending October 31, 1894, were as follows:

BUTTER.

Eastern, 341,705 packages of 70 pounds (average), 23,719,350 pounds, valued at 23 cents per pound	$5,501,450 50
Western, 1,372,563 packages of 50 pounds (average), 68,628,150 pounds, valued at 21 cents per pound	14,411,911 50
Total, 92,548,500 pounds, valued at	$19,913,362 00

CHEESE.

Eastern, 80,671,755 pounds, valued at 10 cents per pound	$8,067,175 50
Western, 6,384,550 pounds, valued at 9 cents per pound	574,609 50
Total, 87,533,905 pounds, valued at	$8,641,785 00

MILK.

	Gallons.
Seven million four hundred seventeen thousand two hundred fifty-six cans of crude milk, of ten gallons each	74,172,560
Sixty-three thousand three hundred eighty-seven cans of unsweetened condensed milk, of ten gallons each	633,870

Two hundred four thousand three hundred seventy-five cans of cream, of ten gallons each	2,043,750
There is also produced in the State of New York, and sold during the year to condensers, most of which reaches New York market in condensed form in small cans, a large amount of crude milk, estimated to be not less than..	18,000,000
Total gallons milk, cream and condensed milk	94,850,180

Value of crude milk handled	$11,125,884 00
Value of cream handled	1,885,595 00
Value of unsweetened milk handled	396,169 00
Value of crude milk sold to condensers	2,700,000 00
Total value	$16,107,648 00

Total value of butter handled	$19,913,362 00
Total value of cheese handled	8,641,785 00
Total value of milk, cream and condensed milk handled	16,107,648 00
Total value of dairy products handled during the year	$44,662,795 00

The total decreases in value of dairy products handled in New York in 1894 show, by comparison with 1893, that there has been a decrease in the quantity of eastern butter received in that city of 6,207,110 pounds, and an increase of 1,814,651 gallons of milk; also, that there was a material decrease in the receipts of cheese during the same period, amounting to 6,708,890 pounds.

The following table will show the net decrease in value of products handled during the year:

Decrease in value of butter handled in 1894, compared with 1893	$1,242,295 00
Decrease in value of cheese handled	1,426,606 45

Decrease in value of milk, cream and condensed milk handled, same period.................	$141,606 50
Decrease in value of eastern dairy products handled in 1894, compared with 1893...	$2,810,507 95

Two million ninety-eight thousand five hundred twenty-nine dollars and thirty cents of the decrease in value of dairy products handled during the year is represented by decreased quantity handled, and only $1,617,942.15 by lower prices obtained. Notwithstanding the lower prices, dairy products have maintained better value than any other farm product during the past year of depression in business of all kinds.

Total value of eastern dairy products handled in New York city during the year:

Butter......................................	$5,501,450 50
Cheese......................................	8,067,175 50
Crude milk, condensed milk and cream........	16,107,648 00
Total....................................	$29,676,274 00

The following statistics giving the value of eastern dairy products handled in New York city for the past four years show an increase in value annually from 1890 to 1893, and a decrease in 1894; also, that while the value of eastern dairy products handled has increased $2,324,616.73, that the western product handled has increased only $41,910,863.80 during the past five years. This increase proves conclusively that the dairy laws, and the enforcement of the same, has encouraged the farmers to give more attention to dairy farming.

FOR THE YEAR ENDING OCTOBER 31, 1895.

The receipt and value of dairy products handled in New York city during the year ending October 31, 1895, were as follows:

BUTTER.

Eastern, 265,742 packages of 70 pounds (average), 18,601,940 pounds, valued at 20 cents per pound....................................	$3,720,388 00

Western, 1,522,881 packages of 50 pounds (average), 76,144,050 pounds, valued at 19 cents per pound	$14,467,369 00
Total, 94,745,990 pounds, valued at	$18,187,757 50

CHEESE.

Eastern, 61,255,620 pounds, valued at 9½ cents per pound	$5,819,183 90
Western, 5,977,500 pounds, valued at 8½ cents per pound	508,087 50
Total value	$6,327,271 40

MILK.

	Quarts.
Seven million six hundred ninety-one thousand and ninety cans condensed milk, of forty quarts each	309,643,600
Two hundred twenty-one three hundred seventy six cans cream, of forty quarts each	8,885,040
Seventy-four thousand three hundred sixty-one cans unsweetened condensed milk, of forty quarts each	2,974,440
Total quarts	321,473,080
There is also produced within the State of New York, and sold during the year to condensers, most of which reaches New York market in condensed form in small cans, a large amount of crude milk, estimated to be not less than 1,800,000 cans, of forty quarts each	72,000,000
Total quarts milk, cream and condensed milk	373,473,080

Value of crude milk handled	$11,921,189 50
Value of cream handled	1,777,649 28
Value of unsweetened condensed milk	379,984 71
Value of crude milk sold to condensers	2,700,000 00
Total value	$16,778,823 49

Total value of butter handled	$18,187,757 50
Total value of cheese handled	6,327,271 40
Total value of milk, cream and condensed milk handled	16,778,823 49
Total value of dairy products handled during the year	$41,293,852 39
Total decrease in value of dairy products handled, compared with 1894, was	$3,368,942 61

The statistics of dairy products handled in New York city in 1895 show, by comparison with 1894, that there has been a decrease in the quantity of eastern butter received in that city of 5,317,410 pounds, at an increase of 14,072,260 quarts of milk, cream and condensed milk; also, that there was a material decrease in the receipts of cheese during the same period, amounting to 19,411,135 pounds.

The following table will show the net decrease in value of products handled during the year:

Decrease in value of eastern butter handled in 1895, compared with 1894	$1,781,062 50
Increase in value of eastern cheese handled	2,247,991 60
Increase in value of milk, cream and condensed milk, same period	671,175 49
Decrease in value of eastern dairy products handled in 1894, compared with 1893	3,357,878 61

Total value of eastern dairy products handled in New York city during the year:

Butter	$3,720,388 00
Cheese	5,819,183 90
Crude milk, condensed milk and cream	16,788,823 49
Total	$26,328,395 39

FOR THE YEAR ENDING OCTOBER 31, 1896.

The receipts and value of dairy products handled in New York city during the year ending October 31, 1896, were as follows:

Butter.

Eastern, 236,309 packages of 70 pounds (average), 16,541,630 pounds, valued at 18 cents per pound	$2,977,493 40
Western, 1,943,017 packages of 50 pounds (average), 96,150,850 pounds, valued at 17 cents per pound	16,515,644 50
Total, 113,692,480 pounds, valued at	$19,493,137 90

Cheese.

Eastern, 59,133,120 pounds, valued at 9½ cents per pound	$5,617,645 40
Western, 5,588,520 pounds, valued at 8½ cents per pound	475,024 20
Total, 64,721,640 pounds, valued at	$6,092,669 60

Milk.

	Quarts.
Seven million nine hundred two thousand seven hundred eighty-two cans of crude milk, of forty quarts each	316,111,280
Two hundred twenty-one thousand four hundred eighty-six cans of cream, of forty quarts each,	8,859,440
Eighty thousand one hundred forty-nine cans of unsweetened condensed milk, of forty quarts each	8,205,960
There is also produced within the State of New York, and sold during the year to condensers, most of which reaches the New York market in condensed form in small cans, a large amount of crude milk, estimated to be not less than 1,875,000 cans of forty quarts each	75,000,000

Value of crude milk handled	$11,063,894 80
Value of cream handled	1,550,402 00
Value of unsweetened condensed milk	448,834 40
Value of crude milk sold to condensers	2,718,750 00
Total value	$15,781,881 20

Total value of butter handled	$19,493,137 90
Total value of cheese handled	6,092,669 60
Total value of milk, cream and condensed milk handled	15,781,881 20
Total value of dairy products handled during the year	$41,367,688 70
Total increase in value of dairy products handled compared with 1895	$73,836 31

The statistics of dairy products handled in New York city in 1895 show, by comparison with 1896, that there has been a decrease in quantity of eastern butter received in that city of 2,060,310 pounds, and an increase of 29,703,600 quarts of milk, cream and condensed milk; also that there was a material decrease in the receipts of cheese during the same period, amounting to 2,511,480 pounds.

The following table will show the net decrease of products handled during the year:

Decrease in value of eastern butter handled in 1896, compared with 1895	$374,855 80
Decrease in value of eastern cheese handled	233,590 60
Decrease in value of milk, cream and condensed milk, same period	996,942 29
Decrease in the value of eastern dairy products handled in 1895, compared with 1896	1,605,388 69

Total value of eastern dairy products handled in New York city during the year:

Butter	$2,977,493 40
Cheese	5,617,645 40
Crude milk, condensed milk and cream	15,781,881 20
	$24,377,020 00

The following statistics, giving the value of eastern dairy products handled in New York city for the past four years, show an increase in value annually from 1890 to 1893, and a decrease in 1894, 1895 and 1896:

Total of yearly value of products handled 1890-1896.

Eastern.

1890	$27,351,657 22
1891	29,189,943 10
1892	32,148,404 02
1893	33,392,740 45
1894	29,676,274 00
1895	26,318,395 39
1896	24,377,020 00

Western.

1890	$13,075,657 20
1891	15,087,277 50
1892	14,206,083 00
1893	14,080,562 50
1894	14,986,521 00
1895	14,975,456 50
1896	16,990,668 70

Exports of Butter and Cheese.

The following statistics, taken from the records of the New York Mercantile Exchange, show the exports of butter and cheese each year since January 1, 1883:

BUTTER.

	Pounds.
From the port of New York, 1883	18,811,400
From the port of New York, 1884	15,865,600
From the port of New York, 1885	14,601,550
From the port of New York, 1886	11,677,750
From the port of New York, 1887	9,933,400
From the port of New York, 1888	7,099,650
From the port of New York, 1889	19,941,176
From the port of New York, 1890	20,623,534
From the port of New York, 1891	11,115,505
From the port of New York, 1892	9,083,478
From the port of New York, 1893	5,336,449
From the port of New York, 1894	8,288,670
From the port of New York, 1895	11,133,747
From the port of New York, 1896*	18,540,091
From all ports in the United States, 1883	22,375,708
From all ports in the United States, 1884	21,391,196
From all ports in the United States, 1885	19,593,872
From all ports in the United States, 1886	14,404,727
From all ports in the United States, 1887	12,531,171
From all ports in the United States, 1888	8,749,366
From all ports in the United States, 1889	25,983,054
From all ports in the United States, 1890	23,895,914
From all ports in the United States, 1891	14,970,538
From all ports in the United States, 1892	11,251,250
From all ports in the United States, 1893	6,837,289
From all ports in the United States, 1894	10,231,417
From all ports in the United States, 1895	13,935,017
From all ports in the United States, 1896*	23,335,729

These statistics show that there have been 12,315,199 pounds more butter exported from the port of New York during the first ten months of 1896 than during the corresponding ten months in 1895; also that the total receipts of butter in New York city during the year ending October 31, 1896, were 18,946,490 pounds more than during the previous year.

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* Ten months.

CHEESE.

	Pounds.
From the port of New York, 1883	97,897,850
From the port of New York, 1884	96,634,250
From the port of New York, 1885	82,934,750
From the port of New York, 1886	78,763,400
From the port of New York, 1887	72,529,500
From the port of New York, 1888	75,840,700
From the port of New York, 1889	75,046,826
From the port of New York, 1890	70,208,270
From the port of New York, 1891	61,299,205
From the port of New York, 1892	67,432,651
From the port of New York, 1893	53,293,060
From the port of New York, 1894	52,903,719
From the port of New York, 1895	30,692,702
From the port of New York, 1896*	25,947,401
From all ports in the United States, 1883	111,973,140
From all ports in the United States, 1884	111,950,686
From all ports in the United States, 1885	95,047,243
From all ports in the United States, 1886	86,636,685
From all ports in the United States, 1887	87,069,804
From all ports in the United States, 1888	81,595,304
From all ports in the United States, 1889	98,140,486
From all ports in the United States, 1890	91,014,571
From all ports in the United States, 1891	77,148,794
From all ports in the United States, 1892	81,589,361
From all ports in the United States, 1893	67,925,712
From all ports in the United States, 1894	68,607,186
From all ports in the United States, 1895	40,610,242
From all ports in the United States, 1896*	37,515,798

	Pounds.
The total receipts of cheese in the city of New York during the year ending October 31, 1894, were	87,533,905
Less exports from port of New York	50,375,760
Leaving for home trade	37,158,145

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*Ten months.

	Pounds.
The total receipts of cheese in the city of New York during the year ending October 31, 1895 were	76,233,120
Less exports from port of New York, same period	29,008,368
Leaving for home trade	38,224,752

Being 1,060,607 pounds more left for home trade than the previous year.

	Pounds.
The total receipts of cheese in the city of New York during the year ending October 31, 1896, were	64,721,640
Less exports from port of New York, same period	27,631,735
Leaving for home trade	37,089,905

Being 1,134,847 pounds less for home trade than in the previous year.

Average Price of Butter and Cheese for the Fiscal Year 1896.

BUTTER.

	Creamery, extra fresh	Best June.	State dairy, extra, half firkin tub.	Best firkin.	Best western dairy.	Best imitation Coy.	Best fresh.	Best June.
1895.	cents.	cents.	cents.	cents.	cents.	cents.	cents.	cents.
November....	23.17	21	21	19.33	14¼	16.83	14	13.61
December....	26.2	22⅛	22⅛	19.12	17¾	19¾	17⅛	13⅝
Average on the basis of 12 months receipts.	24.12	21	21½	19 6-7	16	18	15½	13½
1896.								
January.....	22½	20	20⅓	18 1-5	16½	17½	16	13
February.....	19¾	17¼	18	15½	13¼	14¾	12½	11
March.......	21¾	17¾	20	15¼	....	14½	12½	10½
April.........	16¾	13	15¾	13	....	13¼	11	9¼
May.........	15⅔	10½	15	9⅞	10¾	11¾	9⅛	8½
June.........	15½	....	14⅞	....	11¼	12	10⅞	....
July.........	15	....	14⅛	....	11½	12	10½	11
August.......	16	....	14½	....	11½	12⅛	10⅛	11
September...	15⅞	....	14 1-5	....	11	11⅞	9½	10.7
October......	18¾	17½	16¾	15	11¼	12½	9½	11
Average for 10 months, viz.: January to October, inclusive.	17.8	16	16.3	14½	12⅛	13 1-5	11.1	10⅝

CHEESE.

1895.	Cents.
November	10 3-10
December	10 1-8
1896.	**Cents.**
January	10 1-4
February	10 1-2
March	10 1-2
April	10
May	9 5-8
June	6 9-10
July	6 2-10
August	7 6-10
September	8 3-4
October	10

The exports of oleomargarine from the port of New York January 1 to November 1, 1892, was 1,955.829 pounds, and during the same period of 1893, 2,943,20 pounds, showing an increase in 1893 over 1892, for the period named, 897,397 pounds. Exports of oleomargarine for the year ending November 1, 1894, was 4,619,772 pounds, an increase as compared with 1893 of 1,670,546 pounds.

Exports of oleomargarine for the year ending November 1, 1895, was 8,800,126 pounds, an increase as compared with 1894 of 4,180,348 pounds.

Exports of oleomargarine for the year ending November 1, 1896, was 3,249,408 pounds, a decrease as compared with 1895 of 5,550,718 pounds.

Detailed Report of Work Performed.

OLEOMARGARINE.

The following is a detailed report of the work performed by each employe of this division between September 30, 1895, and October 1, 1896, in prosecuting violators of the law relating to the sale of oleomargarine:

Edmund S. Wilson, expert, employed in above service 203 days:

Number of days in court	53
Number of days obtaining evidence	21

Number of days on special duty	12
Number of days inspecting stores and bakeries	75
Number of days visiting hotels, restaurants and boarding-houses	42
Total number of days	203

Number of samples purchased and taken	373
Number of samples delivered to chemists	14
Number of evenings obtaining samples	52
Number of complaints made	14
Number of appearances in cases	85
Number of stores and bakeries inspected	2,534
Number of hotels and boarding-houses inspected	631
Estimated number of miles traveled	3,560

John McGuire, expert, employed in the above service 189 days:

Number of days in court	66
Number of days obtaining evidence	10
Number of days on special duty	12
Number of days inspecting stores and bakeries	63
Number of days visiting hotels, restaurants and boarding-houses	38
Total number of days	189

Number of samples purchased and taken	612
Number of samples delivered to chemists	21
Number of evenings obtaining samples	71
Number of complaints made	21
Number of appearances in cases	144
Number of stores and bakeries inspected	3,012
Number of hotels and boarding-houses visited	642
Estimated number of miles traveled	3,214

William H. Meeteer, expert, employed in the above service 170 days:

Number of days in court	68
Number of days obtaining evidence	9

Number of days on special duty	14
Number of days inspecting stores and bakeries	48
Number of days visiting hotels, restaurants and boarding-houses	31
Total number of days	170

Number of samples purchased and taken	387
Number of samples delivered to chemists	24
Number of evenings obtaining samples	80
Number of complaints made	22
Number of appearances in cases	122
Number of stores and bakeries inspected	2,274
Number of hotels, restaurants and boarding-houses visited	567
Estimated number of miles traveled	3,915

John T. Norton, expert, employed in the above service 200 days:

Number of days in court	64
Number of days obtaining evidence	12
Number of days on special duty	14
Number of days inspecting stores and bakeries	66
Number of days visiting hotels, restaurants and boarding-houses	44
Total number of days	200

Number of samples purchased and taken	614
Number of samples delivered to chemists	15
Number of evenings obtaining samples	75
Number of complaints made	16
Number of appearances in cases	115
Number of stores and bakeries inspected	3,072
Number of hotels, restaurants and boarding-houses visited	635
Estimated number of miles traveled	3,950

Archibald D. Clark, expert, employed in the above service 179 days:

Number of days in court	70
Number of days obtaining evidence	11
Number of days on special duty	7
Number of days inspecting stores and bakeries	62
Number of days visiting hotels, restaurants and boarding-houses	29
Total number of days	179

Number of samples purchased and taken	402
Number of samples delivered to chemists	20
Number of evenings obtaining samples	73
Number of complaints made	18
Number of appearances in cases	152
Number of stores and bakeries inspected	2,970
Number of hotels, restaurants and boarding-houses visited,	468
Estimated number of miles traveled	3,490

Joseph F. Geisler, Ph. C., chemist:

Number of analyses of oleomargarine and butter samples,	40
Number of appearances in cases	58
Number of days in court	41

Charles M. Stillwell, A. M., and Thomas S. Gladding, A. A., chemists:

Number of analyses of oleomargarine and butter samples,	21
Number of appearances in cases	27
Number of days in court	16

E. G. Love, Ph. C., chemist:

Number of analyses of oleomargarine and butter samples,	27
Number of appearances in cases	29
Number of days in court	19

TOTAL OF WORK PERFORMED.

Number of days in court, experts and chemists	397
Number of days obtaining evidence	63
Number of days on special duty	59
Number of days inspecting stores and bakeries	314
Number of days visiting hotels, restaurants and boarding-houses	184
Total number of days	1,017
Number of samples purchased and taken	2,394
Number of samples delivered to chemists	94
Number of evenings obtaining samples	351
Number of complaints made	91
Number of appearances in cases	732
Number of stores and bakeries inspected	13,862
Number of hotels, restaurants and boarding-houses visited,	2,943
Estimated number of miles traveled	18,129
Number of analyses of oleomargarine and butter samples,	88
Number of cases prosecuted, criminal	90
Number of civil penalty actions	10
Number of cases disposed of	89
Number of civil penalties imposed	5
Number of convictions	77
Number of acquittals	1
Number of cases dismissed on examination	3
Number of cases defendant absconded, criminal	2
Number of cases awaiting trial	11
Number of cases withdrawn	1

The status of the following six prosecutions for violation of the Agricultural Law relating to oleomargarine was fully reported in the last Annual Report; the final disposition of one, and present status of the others is given in the annexed table.

Case No.	Names.	Court.	Place.	Called for trial.	Remarks.
617	The People v. Eches	General Sessions	New York city		Awaiting trial.
1059	The People v. O'Farrell	Special Sessions	Long Island City.	November 29, '95	Tried and acquitted.
1065	The People v. Buchanan	Special Sessions	Brooklyn	October 28, '95	Pleaded guilty and fined $25.
	The People v. Adler	Supreme Court	New York city		Awaiting trial.
	The People v. Adler	Supreme Court	Brooklyn		Awaiting trial.
1052	The People v. Raphail	General Sessions	New York city		Awaiting trial.

Prosecutions.

OLEOMARGARINE.

The following statement represents prosecutions commenced during the year ending September 30, 1896, under the Agricultural Law relating to the sale of oleomargarine and the present status of the cases:

SAMPLE No. 1072.

Yorkville Police Court, New York City.

Warrant issued April 28, 1896; returnable April 30th; adjourned without date, on account of illness of defendant.

Counsel: C. G. Macy.

Witnesses: John McGuire, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 1062.

Justice Acker's Court, New Brighton, Staten Island.

Complaint made February 14, 1896. Justice Acker failed to issue warrant, and papers were withdrawn from his hands by Attorney Macy on July 22, 1896.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, John McGuire.

Chemist: Thos. S. Gladding.

SAMPLE No. 1005.

Centre Street Police Court, New York City.

Warrant issued February 10, 1896; answered to February 11th; held to bail for trial at Special Sessions. Called for pleading February 18th; pleaded not guilty, and adjourned for trial to February 25th. Called for trial February 25th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, John McGuire.

Chemist: E. G. Love.

SAMPLE No. 1132.

Harlem Police Court, New York City.

Warrant issued April 18, 1896; answered to April 20th; gave bail for trial at Special Sessions. Called for trial April 30th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 1133.

Centre Street Police Court, New York City.

Warrant issued February 10, 1896; answered to February 11th; held in bail for trial at Special Sessions. Called for pleading February 24th; pleaded not guilty; adjourned to 27th, and pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, J. T. Norton.

Chemist: E. G. Love.

SAMPLE No. 1095.

Justice Walsh's Police Court, Brooklyn, N. Y.

Warrant issued April 29, 1896; answered to May 1st, and adjourned to May 8th for examination; held for trial at Special Sessions. Called for trial May 8th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, Arch. D. Clark, E. S. Wilson.

Chemist: E. G. Love.

SAMPLE No. 1064.

Justice Acker's Court, New Brighton, Staten Island.

Warrant issued February 7, 1896; answered to February 8th; held to bail for trial on February 15th; adjourned to February 29th; to March 4th; adjourned to March 7th and tried by jury;

disagreement. Case set for retrial March 14th; adjourned to March 18th and to March 21st; tried by jury; acquitted.

Counsel: Fred A. Ware.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 1076.

Yorkville Police Court, New York City.

Warrant issued February 7, 1896; answered to February 8th; gave bail for trial at Special Sessions. Case called for pleading February 13th; pleaded not guilty and adjourned to February 20th; adjourned to February 27th, and pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. 1069.

Centre Street Police Court, New York City.

Warrant issued February 10, 1896; answered to 11th; gave bail for trial at Special Sessions. Called for trial February 27th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, J. T. Norton.

Chemist: E. G. Love.

SAMPLE No. 1004.

Jefferson Market Police Court, New York City.

Warrant issued March 23, 1896; answered to March 25th; held to bail for trial at Special Sessions. Called for trial April 2d; adjourned to April 9th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, J. T. Norton.

Chemist: J. F. Geisler.

SAMPLE No. S. I. (SPECIAL.)

Justice Acker's Court, New Brighton, Staten Island.

Warrant issued February 14, 1896; answered to February 17th; pleaded guilty; fined $50.

Counsel: C. G. Macy.

Witnesses: August Wenske, W. W. Meeteer, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 1147.

Justice Goetting's Police Court, Brooklyn, N. Y.

Warrant issued April 14, 1896; answered to April 14th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, W. W. Meeteer.

Chemist: E. G. Love.

SAMPLE No. 975.

Justice Acker's Court, West Brighton, Staten Island.

Warrant issued February 10, 1896; answered to February 21st; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, W. W. Meeteer.

Chemist: Thos. S. Gladding.

SAMPLE No. 1063.

Morrissania Police Court, New York City.

Warrant issued February 4, 1896; answered to February 5th; held to bail for trial at Special Sessions. Called for trial February 10th; adjourned to February 13; pleaded guilty; fined $50.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: E. G. Love.

SAMPLE No. 1128.

Jefferson Market Police Court, New York City.

Warrant issued April 7, 1896; answered to April 9th; gave bail for trial at Special Sessions. Called for pleading April 16th; pleaded guilty; fined $75.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 1163.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 2, 1896; answered to April 3d; adjourned to April 8th; adjourned to April 22d; adjourned to May 5th, and pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, E. S. Wilson.

Chemist: J. F. Geisler.

SAMPLE No. 1153.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 17, 1896; answered to April 22d; adjourned to April 29th; adjourned to May 5th. Case dismissed, and Andrew Mack substituted in the above case.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, W. W. Meeteer.

Chemist: Thos. S. Gladding.

SAMPLE No. 1153.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 22, 1896; answered to April 22d; held in bail for trial at Special Sessions. Called for trial April 29th; adjourned to May 5th, and tried; convicted; fined $50.

Counsel: C. G. Macy.

Witnesses: Edward Hawraham, Arch. D. Clark, W. W. Meeteer.

Chemist: Thos. S. Gladding.

SAMPLE No. 1089.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued March 24, 1896; answered to March 25th; adjourned to April 8th; adjourned to April 22d, and discharged.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: E. G. Love.

SAMPLE No. 973.

Centre Street Police Court, New York City.

Warrant issued March 17, 1896; answered to March 18th; held to bail for trial at Special Sessions. Called for pleading March 26th; adjourned for trial to April 2d; adjourned to April 9th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, J. T. Norton.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1088.

Centre Street Police Court, New York City.

Warrant issued March 17, 1896; answered to March 19th; held for examination on March 24th; and on examination was discharged, and John H. Frerks substituted in this case.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: E. G. Love.

SAMPLE No. 1088.

Centre Street Police Court, New York City.

Warrant issued March 24, 1896; answered to March 24th; held for examination on March 27th; gave bail for trial at Special Sessions. Called for pleading April 2d; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: E. G. Love.

SAMPLE No. 1181.

Jefferson Market Police Court, New York City.

Warrant issued April 29, 1896; answered to May 1st; held in bail for trial at Special Sessions. Called for pleading May 7th; adjourned to May 14th, and pleaded guilty; fined $25.

Counsel: Fred. A. Ware.

Witnesses: Arch. D. Clark, J. T. Norton.

Chemist: J. F. Geisler.

SAMPLE No. 1200.

Yorkville Police Court, New York City.

Summons issued April 8, 1896; returnable April 9th, and case dismissed. Case taken before grand jury May 20th; indicted and awaiting trial.

Counsel: Fred. A. Ware.

Witnesses: Arch. D. Clark, John McGuire, J. T. Norton.

Chemist: E. G. Love.

SAMPLE No. 1161.

Essex Market Police Court, New York City.

Warrant issued March 25, 1896; answered to March 25th; held for trial at Special Sessions. Called for pleading April 2d; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, J. T. Norton.

Chemist: J. F. Geisler.

SAMPLE No. 1191.

Yorkville Police Court, New York City.

Warrant issued April 8, 1896; answered to April 9th; held for trial at Special Sessions. Called for pleading April 16th; adjourned to April 23d; pleaded guilty; fined $25.

Counsel: Fred. A. Ware.

Witnesses: Arch. D. Clark, J. T. Norton.

Chemist: E. G. Love.

SAMPLE No. 1164.

Tombs Police Court, New York City.

Warrant issued March 31, 1896; answered to April 2d; held for trial at Special Sessions. Called for pleading April 9th; adjourned to April 16th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 1155.

Justice Walsh's Police Court, Brooklyn, N. Y.

Warrant issued March 20, 1896; answered to March 23d; held to bail for trial at Special Sessions. Called for pleading April 3d, and adjourned for trial to April 11th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John O'Rourke, W. W. Meeteer.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1184.

Centre Street Police Court, New York City.

Warrant issued March 17, 1896; answered to March 19th; held to bail for trial at Special Sessions. Called for pleading March 26th; adjourned for trial to April 2d; pleaded guilty; fined $25.

Counsel: Fred. A. Ware.
Witnesses: W. W. Meeteer, E. S. Wilson.
Chemist: E. G. Love.

SAMPLE No. 1186.

Justice Walsh's Police Court, Brooklyn, N. Y.

Warrant issued March 16, 1896; answered to March 16th; held in bail for examination on March 23d, and held for trial at Special Sessions. Called for trial April 3d; adjourned to April 11th; pleaded guilty; fined $25.

Counsel: Fred. A. Ware.
Witnesses: John O'Rourke, W. W. Meeteer, E. S. Wilson.
Chemist: Chas. M. Stillwell.

SAMPLE No. 976.

Morrissania Police Court, New York City.

Warrant issued April 9, 1896; answered to April 10th; gave bail for trial at Special Sessions. Called for pleading April 16th; pleaded guilty; sentence suspended.

Counsel: C. G. Macy.
Witnesses: Arch. D. Clark, W. W. Meeteer.
Chemist: J. F. Geisler.

SAMPLE No. 1152.

Essex Market Police Court, New York City.

Warrant issued March 20, 1896; answered to March 23d; adjourned for examination to March 25th, and held in bail for trial at Special Sessions. Called for pleading April 2d; pleaded not guilty and adjourned to April 9th; case called April 9th; pleaded guilty and sentence suspended.

Counsel: C. G. Macy.
Witnesses: Arch. D. Clark, W. W. Meeteer.
Chemist: E. G. Love.

SAMPLE No. 1096.

Yorkville Police Court, New York City.

Warrant issued February 7, 1896; answered to February 10th; adjourned to February 14th for examination, and held for trial at Special Sessions. Called for trial February 27th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, W. W. Meeteer.

Chemist: E. G. Love.

SAMPLE No. 1073.

Centre Street Police Court, New York City.

Warrant issued February 10, 1896; answered to February 13th; held to bail for trial at Special Sessions. Called for trial February 27th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, W. W. Meeteer.

Chemist: Thos. S. Gladding.

SAMPLE No. 1071.

Centre Street Police Court, New York City.

Warrant issued April 28, 1896; answered to April 29th; held in bail for trial at Special Sessions. Called for pleading May 7th; adjourned for trial to May 14th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 1093.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued March 24, 1896; answered to March 25th; adjourned to May 8th, and tried; convicted; sentence suspended.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, W. W. Meeteer.

Chemist: Thos. S. Gladding.

SAMPLE No. 699.

Jefferson Market Police Court, New York City.

Warrant issued March 23, 1896; answered to March 25th; held to bail for trial at Special Sessions. Called for pleading April 2d; adjourned for trial to April 9th, and pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, Arch. D. Clark.

Chemist: E. G. Love.

SAMPLE No. 1129.

Essex Market Police Court, New York City.

Warrant issued April 28, 1896; answered to April 30th; held to bail for trial at Special Sessions. Called for pleading May 7th; adjourned for trial to May 14th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 1189.

Centre Street Police Court, New York City.

Warrant issued March 27, 1896; answered to March 30th; held in bail for trial at Special Sessions. Called for trial April 9th; tried; convicted; fined $25.

Counsel: Fred A. Ware.

Witnesses: J. T. Norton, John McGuire.

Chemist: Chas. M. Stillwell.

SAMPLE No. 554.

Harlem Police Court, New York City.

Warrant issued April 16, 1896; answered to April 23d; held in bail for trial at Special Sessions. Called for pleading April 30th; adjourned for trial to May 7th; case called May 7th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 1197.

Jefferson Market Police Court, New York City.

Warrant issued April 7, 1896; answered to April 9th; held in bail for trial at Special Sessions. Called for pleading April 16th, and adjourned to April 23d for trial; called for trial April 23d; pleaded guilty; fined $25.

Counsel: Fred A. Ware.

Witnesses: E. S. Wilson, W. W. Meeteer.

Chemist: E. G. Love.

SAMPLE No. 1177.

Jefferson Market Police Court, New York City.

Warrant issued April 7, 1896; answered to April 9th; held to bail for trial at Special Sessions. Called for pleading April 16th, and adjourned for trial to April 23d; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. 1046.

Yorkville Police Court, New York City.

Warrant issued April 6, 1896; answered to April 7th; held in bail for trial at Special Sessions. Called for pleading April 16th, adjourned for trial to April 23d; adjourned to April 30th; adjourned to May 7th; adjourned to May 14th; pleaded guilty; sentence suspended.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, Arch. D. Clark.

Chemist: E. G. Love.

SAMPLE No. 1167.

Yorkville Police Court, New York City.

Warrant issued April 28, 1896; answered to April 30th; held for examination on May 4th, and held in bail for trial at Special Sessions. Case called for pleading May 14th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, Arch. D. Clark, John McGuire.

Chemist: E. G. Love.

SAMPLE No. 1194.

Yorkville Police Court, New York City.

Warrant issued April 28, 1896; answered to April 30th; held to bail for trial at Special Sessions. Called for pleading May 7th; pleaded guilty; fined $50.

Counsel: Fred. A. Ware.

Witnesses: J. T. Norton, Arch. D. Clark.

Chemist: E. G. Love.

SAMPLE No. 1178.

Jefferson Market Police Court, New York City.

Warrant issued March 25, 1896; answered to March 25th; held in bail for trial at Special Sessions. Called for pleading April 2d; adjourned for trial to April 9th; adjourned to April 16th; adjourned to April 23d, and tried; convicted; fined $75.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, John McGuire.

Chemist: E. G. Love.

SAMPLE No. 1190.

Centre Street Police Court, New York City.

Warrant issued April 10, 1896; answered to April 13th; held in bail for trial at Special Sessions. Called for pleading April 23d; pleaded guilty; fined $25.

Counsel: Fred. A. Ware.

Witnesses: John McGuire, Arch. D. Clark.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1182.

Centre Street Police Court, New York City.

Warrant issued April 10, 1896; answered to April 13; held in bail for trial at Special Sessions. Called for pleading April 23d; pleaded guilty; fined $25.

Counsel: Fred. A. Ware.

Witnesses: John McGuire, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 1165.

Justice Tighe's Court, Brooklyn, N. Y.

Warrant issued April 2, 1896; answered to April 3d, and pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, J. T. Norton.

Chemist: J. F. Geisler.

SAMPLE No. 1180.

Centre Street Police Court, New York City.

Warrant issued April 10, 1896; answered to April 13th; held in bail for trial at Special Sessions. Called for pleading April 23d; pleaded guilty; fined $25.

Counsel: Fred. A. Ware.

Witnesses: John McGuire, J. T. Norton.

Chemist: J. F. Geisler.

SAMPLE No. 1156.

Justice Tighe's Court, Brooklyn, N. Y.

Warrant issued April 28, 1896; answered to April 29th; adjourned to May 1st; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, W. W. Meeteer.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1086.

Jefferson Market Police Court, New York City.

Warrant issued April 8, 1896; answered to April 14th; held in bail for trial at Special Sessions. Called for trial April 23d; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, J. T. Norton.

Chemist: E. G. Love.

SAMPLE No. 1168.

Centre Street Police Court, New York City.

Warrant issued March 18, 1896; answered to March 19th; held in bail for trial at Special Sessions. Called for pleading March 26th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, Arch. D. Clark.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1201.

Yorkville Police Court, New York City.

Summons issued April 8, 1896; returnable April 9th, and case dismissed. Case taken before grand jury March 20th; indicted; awaiting trial.

Counsel: Fred. A. Ware.

Witnesses: John McGuire, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 1174.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued March 25, 1896; answered to March 26th; held to bail for trial at Special Sessions. Called for trial April 8th; adjourned to April 22d; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, E. S. Wilson.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1158.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued March 25, 1896; answered to March 26th; held to bail for trial at Special Sessions. Called for trial April 8th; adjourned to April 22d; adjourned to April 29th; tried; convicted; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, E. S. Wilson.

Chemist: Thos. S. Gladding.

SAMPLE No. 1157.

Justice Walsh's Police Court, Brooklyn, N. Y.

Warrant issued April 11, 1896; answered to April 11th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Johannah Mahoney, W. W. Meeteer, E. S. Wilson.

Chemist: Thos. S. Gladding.

SAMPLE No. 1199.

Yorkville Police Court, New York City.

Warrant issued June 12, 1896; answered to June 15th; held in bail for trial at Special Sessions. Called for pleading June 25th; pleaded guilty; fined $50.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, A. D. Clark, John McGuire.

Chemist: E. G. Love.

SAMPLE No. 1195.

Justice Walsh's Police Court, Brooklyn, N. Y.

Warrant issued March 27, 1896; answered to April 16th; held in bail for trial at Special Sessions. Called for trial April 22d; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Johannah Mahoney, E. S. Wilson, W. W. Meeteer.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1404.

Jefferson Market Police Court, New York City.

Warrant issued April 17, 1896; answered to April 18th; held in bail for trial at Special Sessions. Called for trial April 23d; adjourned to April 30th, and tried; convicted; fined $100.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, E. S. Wilson.

Chemist: J. F. Geisler.

SAMPLE No. 1082.

Jefferson Market Police Court, New York City.

Warrant issued April 29, 1896; answered to April 30th; held in bail for trial at Special Sessions. Called for trial May 7th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 1407.

Justice Lamon's Police Court, Brooklyn, N. Y.

Warrant issued July 10, 1896; answered to July 13th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, John McGuire.

Chemist: E. G. Love.

SAMPLE No. 1408.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 28, 1896; answered to April 29th; adjourned to May 5th, and tried; convicted; fined $50.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, W. W. Meeteer.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1409.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 24, 1896; answered to April 28th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, E. S. Wilson.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1159.

Jefferson Market Police Court, New York City.

Warrant issued April 17, 1896; answered to April 18th; held in bail for trial at Special Sessions. Called for trial April 23d; adjourned to April 30th, and case transferred to General Sessions; before grand jury June 24, 1896; indicted; awaiting trial.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. 1149.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 24, 1896; answered to April 28th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, E. S. Wilson.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1172.

Harlem Police Court, New York City.

Warrant issued April 29, 1896; answered to May 5th; held in bail for trial at Special Sessions. Called for pleading May 14th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, A. D. Clark, John McGuire.

Chemist: E. G. Love.

SAMPLE No. 1198.

Centre Street Police Court, New York City.

Warrant issued April 29, 1896; answered to May 1st; held in bail for trial at Special Sessions. Called for trial May 7th; adjourned to May 14th; adjourned to May 21st; pleaded guilty; sentence suspended.

Counsel: C. G. Macy.

Witnesses: John McGuire, J. T. Norton.

Chemist: J. F. Geisler.

SAMPLE No. 1074.

Harlem Police Court, New York City.

Warrant issued April 15, 1896; answered to April 17th; held in bail for trial at Special Sessions. Called for trial April 23d; pleaded guilty; fined $50.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. 1183.

Yorkville Police Court, New York City.

Warrant issued April 28, 1896; answered to April 30th; held to bail for trial at Special Sessions. Called for pleading May 7th; adjourned for trial to May 14th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, J. T. Norton, Arch D. Clark.

Chemist: E. G. Love.

SAMPLE No. 1415.

Justice Lamon's Police Court, Brooklyn, N. Y.

Warrant issued July 10, 1896; answered to July 13th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, E. S. Wilson.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1416.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 22, 1896; answered to April 22d; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Rebecca Keilty, Arch. D. Clark, W. W. Meeteer.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1410.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 10, 1896; answered to April 11th; held in bail for trial at Special Sessions. Called for trial April 22d; pleaded guilty; fined $25.

Counsel: C. G. Macy.
Witnesses: M. Romkey, W. W. Meeteer, E. S. Wilson.
Chemist: Chas. M. Stillwell.

SAMPLE No. 1075.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 24, 1896; answered to April 28th; held to bail for trial at Special Sessions. Called for trial May 5th; pleaded guilty; sentence suspended.

Counsel: C. G. Macy.
Witnesses: W. W. Meeteer, Arch. D. Clark.
Chemist: Chas. M. Stillwell.

SAMPLE No. 1088.

Centre Street Police Court, New York City.

Warrant issued March 24, 1896; answered to Mach 24th; held for examination on March 27th; on examination held for trial at Special Sessions. Called for trial April 2d; pleaded guilty; fined $25.

Counsel: C. G. Macy.
Witnesses: W. W. Meeteer, Arch. D. Clark.
Chemist: E. G. Love.

SAMPLE No. 1411.

Justice Schatz's City Court, Mt. Vernon, N. Y.

Warrant issued June 25, 1896; answered to June 25th; pleaded guilty; fined $25.

Counsel: C. G. Macy.
Witnesses: Arch. D. Clark, W. W. Meeteer.
Chemist: E. G. Love.

SAMPLE No. 1418.

Justice Walsh's Police Court, Brooklyn, N. Y.

Warrant issued April 22, 1896; answered to April 22d; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, W. W. Meeteer.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1175.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 28, 1896; answered to April 29th; adjourned to May 5th; adjourned to May 12th; adjourned to May 19th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, W. W. Meeteer.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1150.

Justice Schatz's City Court, Mt. Vernon, N. Y.

Warrant issued July 11, 1896; answered to July 11th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark, John W. Backer.

Chemist: E. G. Love.

SAMPLE No. 1084.

Essex Market Police Court, New York City.

Warrant issued July 9, 1896; answered to July 10th; held in bail for trial at Special Sessions. Called for pleading July 16th; adjourned for trial to July 23d; adjourned to August 6th, and case transferred to General Sessions.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, John McGuire.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1425.

Jefferson Market Police Court, New York City.

Warrant issued July 10, 1896; answered to July 13th; held in bail for trial at Special Sessions. Called for trial July 23d; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, John McGuire.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1426.

Yorkville Police Court, New York City.

Warrant issued July 10, 1896; answered to July 13th; held to bail for trial at Special Sessions. Called for trial July 23d; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, J. T. Norton.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1077.

Yorkville Police Court, New York City.

Warrant issued August 8, 1896; answered to August 10th; held to bail for trial at Special Sessions. Called for trial August 20th; adjourned to August 27th; adjourned to September 9th; to September 17th, and to September 24th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 1234.

Centre Street Police Court, New York City.

Warrant issued August 13, 1896; answered to August 14th; held to bail for trial at Special Sessions. Called for pleading

August 20th; adjourned without date. Called for trial September 17th, and trial continued to September 24th; defendant found guilty and fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, J. T. Norton.

Chemist: J. F. Geisler.

SAMPLE No. 1083.

Harlem Police Court, New York City.

Warrant issued July 27, 1896; answered to July 28th; held in bail for trial at Special Sessions. Called for pleading August 6th, and adjourned for trial to August 13th; adjourned to August 20th, to August 27th, to September 9th, to September 17th, to October 1st; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, John McGuire.

Chemist: E. G. Love.

SAMPLE No. 1427.

Justice McKenna's Court, Whitestone Landing, N. Y.

Warrant issued September 30, 1896; returnable October 8th.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 1429.

Justice Ingraham's Court, Long Island City, N. Y.

Warrant issued August 6, 1896; answered to August 7th; adjourned to August 14th; adjourned to August 24th; adjourned to September 2d; adjourned to September 9th, and pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, Chas. Jung.

Chemist: J. F. Geisler.

SAMPLE No. 1430.

Justice Lamon's Police Court, Brooklyn, N. Y.

Warrant issued July 30, 1896; answered to July 31st; held to bail for trial at Special Sessions. Called for trial August 3d; adjourned to August 10th; adjourned to August 17th; adjourned to August 18th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, Chas. Jung.

Chemist: J. F. Geisler.

SAMPLE No. 1074.

Civil penalty action for $100 and costs.

Ninth Judicial District Civil Court, New York City.

Summons and complaint served June 17, 1896; returnable June 26th; adjourned for trial to July 10th; adjourned to July 24th; adjourned to July 29th; adjourned to August 5th; paid penalty of $100 and costs.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. 1095.

Civil penalty action for $100 and costs.

First Judicial District Court, Brooklyn, N. Y.

Summons and complaint served June 30, 1896; returnable July 10th; adjourned to July 16th; adjourned to September 11th; adjourned to September 15th; adjourned to September 24th; adjourned to October 7th.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, Arch. D. Clark, E. S. Wilson.

Chemist: E. G. Love.

SAMPLE No. 1167.

Civil penalty action for $100 and costs.

Eleventh Judicial District Court, New York City.

Action begun by service of summons and complaint; returnable June 26, 1896; adjourned to July 3d, to July 10th, to July 17th, to July 24th, to July 31st, to August 7th, to August 14th and judgment taken for $100 and costs.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, Arch. D. Clark, John McGuire.

Chemist: E. G. Love.

SAMPLE No. 1063.

Civil penalty action for $100 and costs.

Tenth Judical District Court, New York City.

Action begun by service of summons and complaint; returnable July 9, 1896; adjourned to July 23d, to July 30th, to August 6th, to August 13th, to August 20th, to September 10th, to September 24th, to October 13th.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: E. G. Love.

SAMPLE No. 1404.

Civil penalty action for $100 and costs.

Third Judicial District Court, New York City.

Action begun by service of summons and complaint; returnable July 9, 1896; adjourned to July 16th; adjourned to July 23d, and case called, defendant not appearing; took judgment for $100 and costs.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, E. S. Wilson.

Chemist: J. F. Geisler.

SAMPLE No. 1159.

Civil penalty action for $100 and costs.

Third Judicial District Court, New York City.

Summons and complaint served June 18, 1896; returnable June 30, 1896; adjourned to July 7th; adjourned to July 21st; adjourned to August 4th, to August 11th, to August 25th, to September 1st, to September 8th, to September 15th, to September 29th, to October 13th.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. 1198.

Civil penalty action for $100 and costs.

First Judicial District Court, New York City.

Summons and complaint served August 6, 1896; returnable August 13th; adjourned to September 2d; adjourned to September 9th; adjourned to September 10th, and judgment rendered for $100 and costs.

Counsel: C. G. Macy.

Witnesses: John McGuire, J. T. Norton.

Chemist: J. F. Geisler.

SAMPLE No. 1407.

Civil penalty action for $100 and costs.

First Judicial District Court, Brooklyn, N. Y.

Summons and complaint served August 18, 1896; returnable August 28th; adjourned to September 25th; adjourned to October 9th.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, John McGuire.

Chemist: E. G. Love.

SAMPLE No. 1177.

Civil penalty action for $100 and costs.

Eighth Judicial District Court, New York City.

Summons and complaint served June 17, 1896; returnable June 29th; adjourned to July 9th, to July 16th, to August 27th, to September 10th, to September 24th, and briefs submitted. Judgment given for plaintiff for $100 and costs.

Counsel: C. G. Macy.

Witnesses: E. S. Wilson, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. 1149.

Civil penalty action for $100 and costs.

First Judicial District Court, Brooklyn, N. Y.

Action begun by service of summons and complaint; returnable July 10, 1896; adjourned to July 16th, to August 13th, to September 1st, to September 15th, to October 6th.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, E. S. Wilson.

Chemist: Chas. M. Stillwell.

SAMPLE No. 1145.

Centre Street Police Court, New York City.

Warrant issued January 30, 1896; absconded before warrant was served.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemists: Thos. S. Gladding.

SAMPLE No. 1160.

Jefferson Market Police Court, New York City.

Warrant issued April 7, 1896; absconded before warrant was served.

Counsel: C. G. Macy.
Witnesses: E. S. Wilson, John McGuire.
Chemist: J. F. Geisler.

The following of the 100 preceding prosecutions and civil penalty actions for violation of the laws relating to oleomargarine commenced between September 30, 1895, and October 1, 1896, were as follows:

Convicted on trial or pleaded guilty	77
Civil penalty imposed on trial	5
Awaiting trial, General Sessions	2
Awaiting trial, Special Sessions	4
Awaiting trial, civil courts	5
Absconded	2
Acquitted	1
Dismissed	3
Withdrawn	1
Total	100

Detailed Report of Work Performed.

MILK.

The following table gives a detailed report of work performed by each employe in this division of the Department between September 30, 1895, and October 1, 1896, in enforcing the law relating to the sale of adulterated milk:

William W. Meeteer, expert, employed in the above service 106 days:

Number of days in court	34
Number of days obtaining evidence	3
Number of days inspecting milk	43
Number of days on special duty	17
Number of days inspecting herds	9
Total number of days	106

Number of stores, milk inspected	1,408
Number of cans milk inspected	2,056
Number of dairies and creameries' milk inspected on delivery from railroads and steamboats	806
Number of cans inspected	4,490
Number of pedlers' milk inspected	372
Number of cans inspected	1,950
Total cans milk inspected	8,625

Number of inspections of stables	159
Number of cows inspected	6,317
Total number of samples delivered to chemists	5
Total number of complaints made	8
Total number of appearances in cases	71
Estimated number of miles traveled	3,022

Archibald D. Clark, expert, employed in the above service 96 days:

Number of days in court	33
Number of days obtaining evidence	3
Number of days inspecting milk	52
Number of days on special duty	3
Number of days inspecting herds	5
Total number of days	96

Number of stores, milk inspected	2,345
Number of cans inspected	3,780
Number of dairies and creameries' milk inspected on delivery from railroads and steamboats	745
Number of cans inspected	4,176
Number of pedlers' milk inspected	265
Number of cans inspected	1,430
Total cans of milk inspected	9,386
Number of stables inspected	29
Number of cows inspected	640

Total number of samples delivered to chemists	6
Total number of complaints made	8
Total number of appearances in cases	57
Estimated number of miles traveled	2,955

John McGuire, expert, employed in the above service 94 days:

Number of days in court	35
Number of days obtaining evidence	6
Number of days inspecting milk	47
Number of days on special duty	4
Number of days inspecting herds	2
Total number of days	94

Number of stores, milk inspected	2,110
Number of cans milk inspected	3,687
Number of dairies and creameries' milk inspected on delivery from railroads and steamboats	780
Number of cans inspected	4,310
Number of pedlers' milk inspected	382
Number of cans inspected	1,414
Total cans milk inspected	9,411
Total number of samples delivered to chemists	8
Total number of complaints made	9
Total number of appearances in cases	47
Estimated number of miles traveled	2,308

Edmund S. Wilson, expert, employed in the above service 98 days:

Number of days in court	9
Number of days obtaining evidence	10
Number of days inspecting milk	73
Number of days inspecting herds	6
Total number of days	98

Number of stores, milk inspected	2,108
Number of cans milk inspected	3,290
Number of dairies and creameries' milk inspected on delivery from railroads and steamboats	736
Number of cans inspected	4,163
Number of pedlers' milk inspected	425
Number of cans inspected	1,940
Total cans inspected	9,393
Number of inspections of stables	75
Number of cows inspected	2,500
Total number of samples delivered to chemists	3
Total number of complaints made	3
Total number of appearances in cases	52
Estimated number of miles traveled	2,450

John T. Norton, expert, employed in the above service 87 days:

Number of days in court	23
Number of days obtaining evidence	5
Number of days inspecting milk	51
Number of days on special duty	4
Number of days inspecting herds	4
Total number of days	87

Number of stores, milk inspected	1,630
Number of cans milk inspected	2,575
Number of dairies and creameries' milk inspected on delivery from railroads and steamboats	795
Number of cans inspected	4,496
Number of pedlers' milk inspected	295
Number of cans inspected	1,635
Total cans inspected	8,706
Number of inspections of stables	42
Number of cows inspected	1,233
Total number of samples delivered to chemists	7
Total number of complaints made	4
Total number of appearances in cases	35
Estimated number of miles traveled	4,500

Joseph F. Geisler, Ph. C., chemist:

Number of analyses of milk samples	17
Number of appearances in cases	17
Number of days in court	11

Charles M. Stillwell, A. A., and Thomas S. Gladding, A. M., chemists:

Number of analyses of milk samples	1
Number of appearances in cases	4
Number of days in court	4

Edward G. Love, Ph. C., chemist:

Number of analyses of milk samples	11
Number of appearances in cases	16
Number of days in court	10

TOTAL, MILK.

Number of days in court, experts and chemists	159
Number of days obtaining evidence	27
Number of days inspecting milk	266
Number of days on special duty	28
Number of days inspecting herds	26
Total number of days	506

Number of stores, milk inspected	9,601
Number of cans inspected	15,388
Number of pedlers' milk inspected	1,639
Number of cans inspected	8,369
Number of dairies and creameries' milk inspected on delivery from railroads and steamboats	3,862
Number of cans inspected	21,635
Total cans inspected	45,392
Number of inspections of stables	337
Number of cows inspected	11,206
Number of samples delivered to chemists	30
Number of appearances in cases	299

Number of complaints made	32
Estimated number of miles traveled	15,135
Number of analyses of samples of milk	27
Number of cases prosecuted, criminal	18
Number of civil penalty actions	14
Number of cases withdrawn	1
Number of convictions	12
Number of civil penalties imposed	2
Number of cases defendant absconded	1
Number deceased	1
Number of cases waiting trial	15
Number of cases disposed of	17

The status of the following twenty-two prosecutions for violation of the Agricultural Laws relating to Adulterated Milk was fully stated in the last annual report; the final disposition of fourteen of them and present status of the others is given in the annexed table.

Case number.	NAMES.	Court.	Place.	Called for trial.	Remarks.
18	The People v. Dion	Queens county	Long Island City		Awaiting trial.
26	The People v. Metscher	Supreme	Brooklyn		Awaiting trial.
2777	The People v. Clancy	General Sessions	Long Island City		Awaiting trial.
2545	The People v. Fedro	General Sessions	New York city		Awaiting trial.
2548	The People v. Beaks	General Sessions	New York city		Awaiting trial.
781	The People v. Koch	General Sessions	New York city		Awaiting trial.
D. D	The People v. Keane	Special Sessions	New York city	October 4, 1895	Pleaded guilty and fined $25.
1897	The People v. Hewitt	Special Sessions	New York city	October 8, 1895	Pleaded guilty and fined $75.
1766	The People v. White	Special Sessions	New York city	October 3, 1895	Pleaded guilty and fined $50.
1764	The People v. Brady	Special Sessions	New York city	October 3, 1895	Tried, convicted and fined $25.
1760	The People v. Schmidt	Special Sessions	New York city	October 3, 1895	Pleaded guilty and fined $25.
1765	The People v. Schwenka	Special Sessions	New York city	October 3, 1895	Pleaded guilty and fined $35.
1899	The People v. Kim	Special Sessions	New York city	October 3, 1895	Pleaded guilty and fined $25.
1786	The People v. Miller	Special Sessions	New York city	October 3, 1895	Tried, convicted and fined $100.
1763	The People v. Weirck	General Sessions	New York city		Awaiting trial.
1787	The People v. Knapp	Special Sessions	New York city	October 10 1895	Pleaded guilty and fined $200.
1922	The People v Christopher	Special Sessions	New York city	November 27, 1895	Dismissed.
1756	The People v. Mollar	Supreme	Long Island City		Awaiting trial.
1788	The People v. Tammany	Special Sessions	New York city	October 3, 1895	Pleaded guilty and fined $50.
1784	The People v. Luhrs	Police	Brooklyn	October 3, 1895	Discharged on examination.
1919	The People v. Meyer	Special Sessions	New York city	November 27, 1895	Dismissed.
1900	The People v. Kuykendall	Special Sessions	New York city	October 3, 1895	Tried and acquitted.

Prosecutions.

MILK.

The following statement represent prosecutions commenced during the year ending September 30, 1896, for violation of the Agricultural Law relating to the sale of adulterated milk and the branding of cans of condensed milk and present status of the cases:

SAMPLE No. 1928.

Yorkville Police Court, New York City.

Warrant issued November 29, 1895; answered to December 2d; held to bail for trial at Special Sessions. Called for trial December 26th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, W. W. Meeteer.

Chemist: E. G. Love.

SAMPLE No. B. B.

Harlem Police Court, New York City.

Warrant issued October 11, 1895; answered to October 15th; adjourned to October 18th; adjourned to November 7th, and complaint withdrawn, and action commenced against Homer Wolcott.

Counsel: Joseph J. Marrin.

Witnesses: Arch. D. Clark, W. W. Meeteer.

SAMPLE No. E. E.

Justice Donahue's Court, Yonkers, N. Y.

Warrant issued December 16, 1895; answered to December 17th; adjourned to January 8, 1896; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, John McGuire.

SAMPLE No. B. B.

Justice Donahue's Court, Yonkers, N. Y.

Warrant issued December 16, 1895; answered to December 17th; adjourned to January 8, 1896; adjourned to January 17th, and tried by jury; convicted; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, W. W. Meeteer.

SAMPLE No. H. H.

Harlem Police Court, New York City.

Warrant issued November 22, 1895; answered to November 23d; held to bail for trial at Special Sessions. Called for trial December 11th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

SAMPLE No. 1745.

Justice Goetting's Police Court, Brooklyn, N. Y.

Warrant issued December 6, 1895; answered to December 7th; adjourned to December 9th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. F. F.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued November 25, 1895; answered to November 27th; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, John McGuire.

SAMPLE No. G. G.

Harlem Police Court, New York City.

Warrant issued November 22, 1895; answered to November 23d; adjourned to November 26th; adjourned to November 29th; held to bail for trial at Special Sessions. Called for trial January 22, 1896; pleaded guilty; fined $25.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, W. W. Meeteer.

SAMPLE No. 1941.

Justice Lambier's Court, Brooklyn, N. Y.

Warrant issued November 26, 1895; answered to November 29th; adjourned to December 6th; adjourned to December 20th; adjourned to January 3, 1896; tried; convicted; fined $25.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: C. M. Stillwell.

SAMPLE No. 1748.

Jefferson Market Police Court, New York City.

Warrant issued January 4, 1896; answered to January 6th; held to bail for trial at Special Sessions. Called for trial January 13th, and case transferred to General Sessions.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: Thos. S. Gladding.

SAMPLE No. 1903.

Essex Market Police Court, New York City.

Warrant issued March 20, 1896; absconded before warrant was served.

Counsel: C. G. Macy.

Witnesses: Arch. D. Clark, J. T. Norton.

Chemist: E. G. Love.

SAMPLE No. ——.

Justice Lambier's Police Court, Brooklyn, N. Y.

Warrant issued November 26, 1895; answered to November 29th; adjourned to December 6th; adjourned to December 20th; adjourned to January 3, 1896; tried; convicted; fined $25.

Counsel: C. G. Macy.

Witnesses: John McGuire, W. W. Meeteer.

SAMPLE No. 1896.

Justice Wood's Court, Jamaica, L. I.

Warrant issued September 26, 1896; answered to September 29th; adjourned to September 30th; deceased.

Counsel: Fred A. Ware.

Witnesses: J. T. Norton, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 1980.

Justice McKenna's Court, Whitestone, L. I.

Warrant issued September 18, 1896; answered to September 28th; pleaded guilty; fined $25.

Counsel: Benj. Estes.

Witnesses: John McGuire, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. B. B.

Morrisania Police Court, New York City.

Warrant issued November 7, 1895; answered to November 7th; held in bail for trial at Special Sessions. Called for trial January 8, 1896; pleaded guilty; fined $10.

Counsel: Joseph J. Marrin.

Witnesses: Arch. D. Clark, W. W. Meeteer.

SAMPLE No. 762.

Justice Vail's Court, Bay Shore, L. I.

Warrant issued September 16, 1896; answered to September 17th; pleaded guilty; fined $25.

Counsel: Fred A. Ware.

Witnesses: E. S. Wilson, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 1951.

Jefferson Market Police Court, New York City.

Warrant issued September 18, 1896; answered to September 19th; held to bail for trial at Special Sessions.

Counsel: Benj. Estes.

Witnesses: Arch. D. Clark, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 747.

Civil penalty action for $100 and costs.

Eighth Judicial District Civil Court, New York City.

Action begun by service of summons and complaint; answered to September 28, 1896, and case settled by paying penalty of $100 and costs.

Counsel: Benj. Estes.

Witnesses: Arch. D. Clark, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 1989.

Civil penalty action for $100 and costs.

First Judicial District Civil Court, New York City.

Action begun by service of summons and complaint; returnable October 7, 1896.

Counsel: Benj. Estes.

Witnesses: J. T. Norton, E. S. Wilson.

Chemist: E. G. Love.

SAMPLE No. 1979.

Civil penalty action for $100 and costs.

Thirteenth Judicial District Civil Court, New York City.

Action begun by service of summons and complaint; returnable September 28, 1896; adjourned to October 5th.

Counsel: Benj. Estes.

Witnesses: Arch. D. Clark, J. T. Norton.

Chemist: E. G. Love.

SAMPLE No. 1996.

Civil penalty action for $100 and costs.

Eighth Judicial District Civil Court, New York City.

Action begun by service of summons and complaint; returnable September 28, 1896; adjourned for trial to October 12th.

Counsel: Benjamin Estes.

Witnesses: John McGuire, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 1995.

Civil penalty action for $100 and costs.

Tenth Judicial District Civil Court, New York City.

Action begun by service of summons and complaint; returnable October 1, 1896.

Counsel: Benj. Estes.

Witnesses: John McGuire, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 1986.

Jefferson Market Police Court, New York City.

Warrant issued September 28, 1896; returnable October 2d.

Counsel: Fred A. Ware.

Witnesses: E. S. Wilson, J. T. Norton.

Chemist: J. F. Geisler.

SAMPLE No. 1997.

Civil penalty action for $100 and costs.

Eighth Judicial District Civil Court, New York City.

Action begun by service of summons and complaint; returnable September 28, 1896; adjourned for trial to October 12th.

Counsel: Benj. Estes.

Witnesses: John McGuire, J. T. Norton.

Chemist: J. F. Geisler.

SAMPLE No. 1998.

Civil penalty action for $100 and costs.

Ninth Judicial District Court, New York City.

Action begun by service of summons and complaint; returnable September 29, 1896; adjourned to October 13th.

Counsel: Benj. Estes.

Witnesses: John McGuire, W. W. Meeteer.

Chemist: E. G. Love.

SAMPLE No. 3504.

Civil penalty action for $100 and costs.

First Judicial District Court, New York City.

Summons and complaint served September 17, 1896; returnable September 24th; adjourned to September 30th; adjourned to October 8th.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, Arch. D. Clark.

Chemist: E. G. Love.

SAMPLE No. 3502.

Civil penalty action for $100 and costs.

Ninth Judicial District Court, New York City.

Action begun by service of summons and complaint; return able October 9, 1896.

Counsel: Fred A. Ware.

Witnesses: Arch. D. Clark, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 3584.

Civil penalty action for $100 and costs.

First Judicial District Court, New York City.

Summons and complaint served September 23, 1896; returnable September 30th; adjourned to October 8th.

Counsel: C. G. Macy.

Witnesses: John McGuire, W. W. Meeteer.

Chemist: E. G. Love.

SAMPLE No. 1788.

Civil penalty action for $100 and costs.

Seventh Judicial District Court, New York City.

Summons and complaint served August 18th, 1896; answered to August 27th; adjourned to September 3d; adjourned to September 10th; adjourned to September 24th; adjourned to October 9th.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, John McGuire.

Chemist: E. G. Love.

SAMPLE No. 1791.

Civil penalty action for $100 and costs.

First Judicial District Court, New York City.

Summons and complaint served August 18, 1896; returnable August 27, 1896; adjourned to September 9th; adjourned to September 23d; adjourned to October 7th.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, John McGuire.

Chemist: Thos. S. Gladding.

SAMPLE No. 3501.

Civil penalty action for $100 and costs.

Ninth Judicial District Court, New York City.

Summons and complaint served September 18, 1896; returnable September 25th; adjourned to October 2d.

Counsel: C. G. Macy.

Witnesses: J. T. Norton, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 742.

Civil penalty action for $100 and costs.

Third Judicial District Court, New York City.

Summons and complaint served August 10, 1896; returnable August 18th; adjourned to September 1st; adjourned to September 8th, and briefs submitted to Judge Moore, September 10th; judgment rendered for plaintiff for $100 and costs.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: J. F. Geisler.

The result of the thirty-two proceeding prosecutions and civil penalty actions for violation of the laws relating to adulterated milk, commenced between September 30, 1895, and October 1, 1896, were as follows:

Convicted on trial or pleaded guilty	12
Civil penalties imposed	2
Awaiting trial Special Sessions	3
Awaiting trial District Civil Courts	12
Withdrawn	1
Absconded	1
Deceased	1
Total	32

Detailed Report of Work Performed.

VINEGAR.

The following tables give a detailed report of work performed by each employe in this division of the Department between September 30, 1895, and October 1, 1896, in enforcing the laws relating to the sale of adulterated vinegar:

Archibald D. Clark, expert, employed in the above service 30 days:

Number of days in court	7
Number of days obtaining evidence	2
Number of days inspecting stores	18
Number of days inspecting wholesale stores and manufactories	3
Total number of days	30

Number of samples purchased and taken	3
Number of samples delivered to chemists	3
Number of appearances in cases	12
Number of complaints made	2
Number of wholesale stores and manufactories inspected	9
Number of barrels and casks of vinegar inspected	355
Number of retail stores inspected	525
Number of barrels and kegs of vinegar inspected	822
Total number of inspections	1,177
Estimated number of miles traveled	815

William W. Meeteer, expert, employed in the above service 28 days:

Number of days in court	16
Number of days inspecting stores	12
Total number of days	28

Number of samples purchased and taken	5
Number of samples delivered to chemists	5
Number of appearances in cases	45
Number of complaints made	5
Number of retail stores inspected	239
Number of barrels and kegs of vinegar inspected	337
Total number of inspections	337
Estimated number of miles traveled	944

John McGuire, expert, employed in the above service 22 days:

Number of days in court	10
Number of days obtaining evidence	2
Number of days inspecting stores	8
Number of days inspecting wholesale stores and manufactories	2
Total number of days	22

Number of samples purchased and taken	5
Number of samples delivered to chemist	5
Number of appearances in cases	34
Number of complaints made	7
Number of wholesale stores and manufactories inspected	10
Number of barrels and casks of vinegar inspected	413
Number of retail stores inspected	380
Number of barrels and kegs of vinegar inspected	516
Total number of inspections made	929
Estimated number of miles traveled	750

Edmund S. Wilson, expert, employed in the above service 5 days:

Number of days in court	2
Number of days inspecting stores	2
Number of days inspecting wholesale stores and manufactories	1
Total number of days	5

Number of samples purchased and taken	2
Number of samples delivered to chemist	2
Number of appearances in cases	7
Number of complaints made	2
Number of wholesale stores and manufactories inspected	10
Number of barrels and casks of vinegar inspected	685
Number of retail stores inspected	250
Number of barrels and kegs of vinegar inspected	461
Total number of inspections	1,146
Estimated number of miles traveled	253

John T. Norton, expert, employed in the above service 18 days:

Number of days in court	8
Number of days inspecting stores	8
Number of days inspecting wholesale stores and manufactories	2
Total number of days	18

Number of samples purchased and taken	2
Number of samples delivered to chemist	2
Number of appearances in cases	16
Number of wholesale stores and manufactories inspected	9
Number of barrels and casks of vinegar inspected	397
Number of retail stores inspected	290
Number of barrels and kegs of vinegar inspected	476
Total number of inspections	873
Estimated number of miles traveled	600

Joseph F. Geisler, Ph. C., chemist:

Number of analyses of vinegar samples	15
Number of appearances in cases	15
Number of days in court	6

Charles M. Stillwell, A. A., and Thomas S. Gladding, A. M., chemists:

Number of analyses of vinegar samples	1
Number of appearances in cases	3
Number of days in court	3

Edward G. Love, Ph. C., chemist:

Number of analyses of vinegar samples	1
Number of appearances in cases	2
Number of days in court	2

TOTAL OF WORK PERFORMED.

Number of days in court, experts and chemists	54
Number of days obtaining evidence	4
Number of days inspecting retail stores	48
Number of days inspecting wholesale stores and manufactories	8
Total number of days	114

Number of wholesale stores and manufactories inspected	38
Number of barrels and casks of vinegar inspected	1,850
Number of retail stores inspected	1,684
Number of barrels and kegs of vinegar inspected	2,612
Total number of vinegar inspections	4,462
Number of samples purchased and taken	17
Number of samples delivered to chemist	17
Number of complaints made	16
Number of appearances in cases	134
Estimated number of miles traveled	3,362
Number of analyses of samples of vinegar	17
Number of cases prosecuted	14
Number of cases discontinued	2
Number of convictions	10
Number of cases awaiting trial	2
Number of cases disposed of	12

The status of the following ten prosecutions for violation of the Agricultural Laws relating to Adulterated Vinegar was fully reported in last annual report; the final disposition of all of them is given in the annexed table.

Case number.	NAMES.	Court.	Place.	Called for trial.	Remarks.
33	The People v. Barker	Special Sessions	New York city	November 21, 1895	Pleaded guilty and fined $50.
47	The People v. Burmeister	Special Sessions	New York city	November 21, 1895	Pleaded guilty and fined $50.
31	The People v. Miller	Special Sessions	New York city	November 21, 1895	Pleaded guilty and fined $50.
18	The People v. Rohrback	Special Sessions	New York city	November 21, 1895	Pleaded guilty and fined $50
34	The People v. Barker	Special Sessions	New York city	November 21, 1895	Pleaded guilty and fined $50.
30	The People v. Kohring	Special Sessions	New York city	November 21, 1895	Pleaded guilty and fined $50.
29	The People v. Nahrmann	Special Sessions	New York city	November 21, 1895	Pleaded guilty and fined $50.
26	The People v. Dickert	Special Sessions	New York city	November 21, 1895	Pleaded guilty and fined $50.
21	The People v. Barker	Special Sessions	New York city	November 21, 1895	Pleaded guilty and fined $50.
10	The People v. Wilkenning	Special Sessions	New York city	November 21, 1895	Pleaded guilty and fined $50.

Prosecutions.

VINEGAR.

The following statement represents prosecutions during the year ending September 30, 1896, for violation of the Agricultural Law, relating to the sale of vinegar.

SAMPLE No. 1022.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 7, 1896; answered to April 8th; pleaded guilty; fined $50.

Counsel: Fred A. Ware.

Witnesses: Arch. D. Clark, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. M.

Judge Kellogg's City Court, Yonkers, N. Y.

Warrant issued May 12, 1896; answered to May 15th; adjourned to May 29th; adjourned to June 17th; adjourned to July 1st, and pleaded guilty; sentence suspended.

Counsel: Fred A. Ware.

Witnesses: John McGuire, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. 1021.

Morrisania Police Court, New York City.

Warrant issued January 27, 1896; answered to January 28th; held in bail for trial at Special Sessions. Called for trial February 3d; adjourned to February 6th; pleaded guilty; fined $50.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 1020.

Morrisania Police Court, New York City.

Warrant issued January 27, 1896; answered to January 28th; held for trial at Special Sessions. Called for trial February 3d; pleaded guilty; fined $50.

Counsel: C. G. Macy.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: E. G. Love.

SAMPLE No. 1018.

Judge Kellogg's City Court, Yonkers, N. Y.

Warrant issued May 12, 1896; answered to May 15th; adjourned to May 29th; adjourned to June 17th; adjourned to July 1st, and pleaded guilty; fined $50.

Counsel: Fred A. Ware.

Witnesses: W. W. Meeteer, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 1031.

Justice Walsh's Police Court, Brooklyn, N. Y.

Warrant issued March 20, 1896; answered to March 23d; adjourned to April 3d; tried; convicted; fined $50.

Counsel: Fred A. Ware.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 35.

Judge Kellogg's City Court, Yonkers, N. Y.

Warrant issued May 12, 1896; answered to May 15th; adjourned to May 29th; adjourned to June 17th; adjourned to July 1st; pleaded guilty; sentence suspended.

Counsel: Fred A. Ware.

Witnesses: John McGuire, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. 1030.

Judge Kellogg's City Court, Yonkers, N. Y.

Warrant issued May 12, 1896; answered to May 15th; adjourned to May 29th; adjourned to June 17th; adjourned to July 1st; pleaded guilty; sentence suspended.

Counsel: Fred A. Ware.

Witnesses: John McGuire, W. W. Meeteer.

Chemist: J. F. Geisler.

SAMPLE No. 1035.

Justice Bateman's Court, Shelter Island, N. Y.

Warrant issued September 29, 1896; returnable October 30th.

Counsel: Benj. Estes.

Witnesses: John McGuire, J. T. Norton.

Chemist: J. F. Geisler.

SAMPLE No. 1023.

Justice Stacpole's Court, Riverhead, N. Y.

Warrant issued September 29, 1896; answered to September 29th; pleaded guilty; fined $50.

Counsel: Benj. Estes.

Witnesses: E. S. Wilson, John McGuire, Arch. D. Clark.

Chemist: J. F. Geisler.

SAMPLE No. 1028.

Justice Tighe's Police Court, Brooklyn, N. Y.

Warrant issued April 7, 1896; answered to April 8th; pleaded guilty; fined $50.

Counsel: Fred A. Ware.

Witnesses: W. W. Meeteer, Arch. D. Clark.

Chemist: Thos. S. Gladding.

SAMPLE No. 1042.

Civil penalty action for $100 and costs.

Suffolk County Supreme Court, Riverhead, L. I.

Action begun by service of summons and complaint; returnable October 24, 1896.

Counsel: Benj. Estes.

Witnesses: Arch. D. Clark, John McGuire.

Chemist: J. F. Geisler.

SAMPLE No. 30.

Civil penalty action for $100 and costs.

Ninth Judicial District Court, New York City.

Summons and complaint served June 26, 1896; returnable July 7th; adjourned to August 4th, and suit discontinued.

Counsel: C. G. Macy.

Witnesses: John McGuire, W. W. Meeteer.

Chemist: E. G. Love.

SAMPLE No. 29.

Civil penalty action for $100 and costs.

Ninth Judicial District Court, New York City.

Summons and complaint served June 26, 1896; returnable July 7th; adjourned to July 15th, and case withdrawn.

Counsel: C. G. Macy.

Witnesses: John McGuire, W. W. Meeteer.

Chemist: E. G. Love.

The result of the fourteen preceding prosecutions for violation of the laws relating to adulterated vinegar, commenced between September 30, 1895, and October 1, 1896, were as follows:

Convicted on trial or pleaded guilty..................	7
Convicted on trial, sentence suspended................	3

Discontinued	2
Awaiting trial	2
Total	14

The final result of prosecutions under the laws relating to oleomargarine, adulterated milk and vinegar, for the year ending September 30, 1896, were as follows:

Cases remaining untried September 30, 1895:

Oleomargarine cases	7
Milk and vinegar cases	32
Total	39

Oleomargarine cases prosecuted during the year ending September 30, 1896	100
Milk cases prosecuted during the year ending September 30, 1896	32
Vinegar cases prosecuted during the year ending September 30, 1896	14
Total	146

Total cases remaining untried September 30, 1895	39
Total cases prosecuted during 1896	146
Total	185

Convicted	120
Civil penalties imposed	7
Discontinued	6
Absconded	3
Deceased	1
Dismissed on examination	4
Acquitted	4
Remaining on calendar untried	40
Total	185

Summary of Cases.

The following list gives the names of persons prosecuted for violating the Agricultural Laws, and amount of fines and civil penalties imposed, convictions, dismissals, acquittals and status of cases not disposed of.

OLEOMARGARINE.

NAME.	Court.	Date.	Fined.
Earnest Buchanan	Special Sessions, Brooklyn	Oct. 28, 1895	$25.
Henry Rohde	Special Sessions, New York	Feb. 27, 1896	25.
Christ. Jung	Special Sessions, New York	Feb. 27, 1896	25.
James Carione	Special Sessions, New York	April 9, 1896	25.
Luigi Burgio	Special Sessions, New York	Feb. 27, 1896	25.
Herman O. Muller	Special Sessions, Brooklyn	May 8, 1896	25.
Jacob Lutz	Special Sessions, New York	Feb. 25, 1896	25.
Jacob Kuntz	Special Sessions, New York	April 30, 1896	25.
Frederick Brickwedde	Special Sessions, Staten Island	Feb. 21, 1896	25.
Fred A. Selje	Special Sessions, New York	Feb. 18, 1896	50.
Frederick Breckwedde	Special Sessions, Staten Island	Feb. 17, 1896	50.
Henry N. Kuever	Special Sessions, Brooklyn	April 14, 1896	25.
John Drake	Special Sessions, New York	Feb. 27, 1896	25.
Charles Cording	Special Sessions, New York	Feb. 27, 1896	25.
Andrew Mack	Special Sessions, Brooklyn	May 5, 1896	50.
John Burrows	Special Sessions, New York	April 16, 1896	75.
Charles Trensch	Special Sessions, Brooklyn	May 5, 1896	25.
Frederick Bossert	Special Sessions, New York	April 9, 1896	25.
Robert Colvin	Special Sessions, New York	May 14, 1896	25.
Domenico Spinelli	Special Sessions, New York	May 14, 1896	25.
John Jonsen	Special Sessions, New York	April 9, 1896	25.
Arthur Graham	Special Sessions, New York	April 2, 1896	25.
Willard H. Jones	Special Sessions, New York	April 23, 1896	25.
Herman F. Weber	Special Sessions, New York	May 14, 1896	25.
Charles Graff	Special Sessions, New York	April 2, 1896	25.
George Ryno	Special Sessions, Brooklyn	April 11, 1896	25.
George Ryno	Special Sessions, Brooklyn	April 11, 1896	25.
John Wettach	Special Sessions, New York	April 16, 1896	25.
Charles Schwartz	Special Sessions, New York	April 23, 1896	25.
John Hamitsch	Special Sessions, New York	April 23, 1896	25.
Albert Trensch	Special Sessions, New York	April 9, 1896	25.
Francis J. Barry	Special Sessions, New York	May 7, 1896	25.
William H. Kerr	Special Sessions, New York	May 7, 1896	50.
John von de Born	Special Sessions, New York	April 23, 1896	75.
Charles A. Fuller	Special Sessions, New York	May 14, 1896	25.
Christopher Bose	Special Sessions, Brooklyn	April 3, 1896	25.
Lena Erdman	Special Sessions, New York	April 23, 1896	25.
Conrad Meyer	Special Sessions, New York	April 23, 1896	25.
Louis H. Landis	Special Sessions, New York	April 23, 1896	25.
Stephen H. Mills	Special Sessions, New York	Mar. 26, 1896	25.
Charles McLoughlin	Special Sessions, Brooklyn	May 1, 1896	25.
Alfred Sidman	Special Sessions, New York	April 23, 1896	25.
George Ryno	Special Sessions, Brooklyn	April 11, 1896	25.
William Comee	Special Sessions, New York	June 25, 1896	50.
Richard Kuhlhoff	Special Sessions, Brooklyn	April 22, 1896	25.
Elizabeth Mich	Special Sessions, Brooklyn	April 29, 1896	25.
Henry Gottlieb	Special Sessions, New York	May 7, 1896	25.
John McCarthy	Special Sessions, Brooklyn	July 13, 1896	25.
Andrew Mack	Special Sessions, Brooklyn	April 22, 1896	25.
Charles Otten	Special Sessions, New York	April 30, 1896	100.
Chas. Ihmle	Special Sessions, Brooklyn	April 28, 1896	25.
Michael Fehler	Special Sessions, Brooklyn	May 5. 1896	50.
Bernard M. Folkers	Special Sessions, Brooklyn	April 28, 1896	25.
Fred Plumb	Special Sessions, New York	April 23, 1896	50.
William Comee	Special Sessions, New York	April 14, 1896	25.
Andrew Mack	Special Sessions, Brooklyn	April 22, 1896	25.
Andrew Mack	Special Sessions, Brooklyn	April 22, 1896	25.
Andrew Mack	Special Sessions, Brooklyn	April 22, 1896	25.
William Pasch	Special Sessions, Brooklyn	May 19, 1886	25.
George Zweifel	Special Sessions, Brooklyn	July 13. 1896	25.
John H. Frerks	Special Sessions. New York	April 2, 1896	25.
Jesse B. Palmer	Special Sessions, Mt. Vernon	June 25, 1896,	25.
Jesse B. Palmer	Special Sessions, Mt. Vernon	July 11, 1896	25,
John W. Lamon	Special Sessions, New York	July 23, 1896	25.

OLEOMARGARINE —(*Concluded*).

NAME.	Court.	Date.	Fined.
Arthur Hallett	Special Sessions, New York	July 23, 1896	$25.
Henry Ziesenitz	Special Sessions, New York	Oct. 1, 1896	25.
Martin L. Mertens	Special Sessions, New York	Sept. 24, 1896	25.
Wing Sing	Special Sessions, New York	Sept. 24, 1896	25.
Henry Vette	Special Sessions, L. I. City	Sept. 9, 1896	25.
Henry Smith	Special Sessions, Brooklyn	Aug. 8, 1896	25.
Charles Otten	District Civil, New York	July 23, 1896	100.
Fred Plumb	District Civil, New York	Aug. 5, 1896	100.
Charles A. Fuller	District Civil, New York	Aug. 14, 1896	100.
Fred Plumb	Special Sessions, New York	May 14, 1896	25.
John Hamitsch	District Civil, New York	Sept. 24, 1896	100.
Albert Trensch	District Civil, New York	Sept. 10, 1896	100.
Mathew O'Farrell	Special Sessions, L. I. City	Nov. 29, 1895	Acquitted.
John Otten	Special Sessions, Staten Island	Mar. 21, 1896	Acquitted.
Max J. Adler	Supreme, New York	....	Awaiting trial.
Max J. Adler	Supreme, Brooklyn	....	Awaiting trial.
Thomas Halpin	Special Sessions, New York	April 16, 1896	Sentence suspended.
Mary Jane McPyke	Special Sessions, New York	April 9, 1896	Sentence suspended.
Margaret Byrnes	Special Sessions, Brooklyn	April 8, 1896	Sentence suspended.
Henry Werner	Police, New York	Mar. 24, 1896	Discharged.
Margaret Romkey	Special Sessions, Brooklyn	April 28, 1896	Discharged.
Herman F. Weber	Special Sessions, New York	May 14, 1896	Sentence suspended.
Thomas P. Gale	General Sessions, New York	....	Awaiting trial.
Joseph E. Gibbs	General Sessions, New York	....	Awaiting trial.
Patrick P. Foley	General Sessions, New York	....	Awaiting trial.
Albert Trensch	Special Sessions, New York	May 21, 1896	Sentence suspended.
Theodore Jawosky	Special Sessions, Brooklyn	May 5, 1896	Sentence suspended.
John Ross	General Sessions, New York	....	Awaiting trial.
Patrick P. Foley	Third Dist. Civil, New York	....	Awaiting trial.
Fred A. Selje	Tenth Dist. Civil, New York	....	Awaiting trial.
Charles Ihmle	First Dist. Civil, New York	....	Awaiting trial.
John F. McCarthy	Civil Justice, Brooklyn	....	Awaiting trial.
Phillip Holz	Yorkville Police, New York	....	Warrant issued.
Herman O. Muller	First Dist. Civil, Brooklyn	....	Awaiting trial.
John C. Raven	Justice, Whitestone Landing	....	Awaiting trial.

ADULTERATED MILK.

NAME	Court.	Date.	Fined.
Conrad Weis	Special Sessions, New York	Dec. 26, 1895	$ 25.
Diedrick Klomberg	Special Sessions, Brooklyn	Dec. 9, 1895	25.
Mark Hewitt	Special Sessions, New York	Oct. 8, 1895	75.
Joseph White	Special Sessions, New York	Oct. 3, 1895	50.
Peter Brady	Special Sessions, New York	Oct. 3, 1895	25.
John Schmidt	Special Sessions, New York	Oct. 3, 1895	25.
William Schwenka	Special Sessions, New York	Oct. 3, 1895	35.
Henry Kim	Special Sessions, New York	Oct. 3, 1895	25.
Thomas Miller	Special Sessions, New York	Oct. 3, 1895	100.
Henry P. Schaf	Special Sessions, Brooklyn	Jan. 3, 1896	25.
John M. Knapp	Special Sessions, New York	Oct. 10, 1895	200.
Charles Tammany	Special Sessions, New York	Oct. 3, 1895	50.
Benjamin F. Saxton	Justice, Bay Shore, L. I.	Sept. 17, 1896	25.
Robert D. Mettler	Justice, Whitestone Landing	Sept. 28, 1896	25.
William C. A. Witt	District Civil, New York	Sept 28, 1896	100.
Thomas E. Wright	District Civil, New York	Sept. 10, 1896	100.
Henry Koch	General Sessions, New York	....	Awaiting trial.
Fred A. Lange	Special Sessions, Brooklyn	April 5, 1896	Sentence suspended
Claus H. Weirck	General Sessions, New York	....	Awaiting trial.
Martin Christopher	Special Sessions, New York	Nov. 27, 1895	Dismissed.
Patrick H. Fedro	General Sessions, New York	....	Awaiting trial.
John Mollan	Supreme, Queens county	....	Awaiting trial.
Fred H. Luhrs	Tombs Police, New York	Oct. 3, 1895	Discharged.
August E. Meyer	Special Sessions, New York	Nov. 27, 1895	Dismissed.
Chas. H. Kuykendall	Special Sessions, New York	Oct. 3, 1895	Acquitted.
Thomas J. Quinn	Special Sessions, Jamaica, L. I.	Sept. 30, 1896	Deceased.
Peter McCullough	First Dist. Civil, New York	....	Awaiting trial.

ADULTERATED MILK — (*Concluded*).

NAME.	Court.	Date.	Fined.
Thomas E. Wright	General Sessions, New York	....	Awaiting trial.
William Bauer	Ninth Dist. Civil, New York	....	Awaiting trial.
Charles W. Wheatley	Thirteenth Dist. Civil, New York	....	Awaiting trial.
William Nelson	General Sessions, New York	....	Awaiting trial.
William J. Gilkinson	Eighth Dist. Civil, New York	....	Awaiting trial.
Charles Hlawatsch	Tenth Dist. Civil, New York	....	Awaiting trial.
John Jooss	First Dist. Civil, New York	....	Awaiting trial.
Henry Koch	Ninth Dist. Civil New York	....	Awaiting trial.
Andrew Siemon	First Dist. Civil, New York	....	Awaiting trial.
Charles H. Tammany	Seventh Dist. Civil, New York	....	Awaiting trial.
William Piat	First Dist. Civil, New York	....	Awaiting trial.
Henry Schoenberg	Ninth Dist. Civil, New York	....	Awaiting trial.
Thomas E. Wright	Eighth Dist. Civil, New York	....	Awaiting trial.

VIOLATIONS OF CONDENSED MILK BRANDING LAWS.

NAME.	Court.	Date.	Fined.
Michael McGinn	Special Sessions, New York	Dec. 11, 1895	$25.
William Brown	Special Sessions, Brooklyn	Nov. 27, 1895	25.
John Keane	Special Sessions, New York	Oct. 4, 1895	25.
Homer Wolcott	Special Sessions, New York	Jan. 8, 1896	10.
William H. Kavanagh	Special Sessions, Yonkers	Jan. 8, 1896	25.
Thomas Smith	Special Sessions, Yonkers	Jan. 17, 1896	25.
Patrick Hart	Special Sessions, New York	Jan. 22, 1896	25.
Austin Fitzgerald	Special Sessions, New York	Jan. 3, 1896	25.
John Rudd	Harlem Police, New York	Nov. 7, 1895	Comp't withdrawn.

ADULTERATED VINEGAR.

NAME.	Court.	Date.	Fined.
Frederick Wilkining	Special Sessions, New York	Nov. 21, 1895	$50.
James Barker	Special Sessions, New York	Nov. 21, 1895	50.
James Barker	Special Sessions, New York	Nov. 21, 1895	50.
James Barker	Special Sessions, New York	Nov. 21, 1895	50.
Henry Dickert	Special Sessions, New York	Nov. 21, 1895	50.
Dick Narhmann	Special Sessions, New York	Nov. 21, 1895	50.
William H. Kohring	Special Sessions, New York	Nov. 21, 1895	50.
Adam Rohrback	Special Sessions, New York	Nov. 21, 1895	50.
Conrad Miller	Special Sessions, New York	Nov. 21, 1895	50.
Bernard Burgmeister	Special Sessions, New York	Nov. 21, 1895	50.
John Maloney	Special Sessions, New York	Feb. 6, 1896	50.
Patrick Shannon	Special Sessions, New York	Feb. 3, 1896	50.
George H. Reinecke	Special Sessions, Brooklyn	April 8, 1896	50.
George H. Reinecke	Special Sessions, Brooklyn	April 8, 1896	50.
James Austin	Special Sessions, Yonkers	July 1, 1896	50.
John Segelken	Special Sessions, Brooklyn	April 3, 1896	50.
Nathaniel A. Griffin, Jr.	Justice, Riverhead, L. I.	Sept. 29, 1896	50.
James Austin	Special Sessions, Yonkers	July 1, 1896	Sentence suspended.
James Austin	Special Sessions, Yonkers	July 1, 1896	Sentence suspended.
James Austin	Special Sessions, Yonkers	July 1, 1896	Sentence suspended.
John S. Havens	Supreme, Suffolk county, Patchogue	....	Awaiting trial.
Maxwell T. Griffing	Special Sessions, Shelter Island	....	Awaiting trial.
Dick Nahrmann	Ninth Dist. Civil, New York	....	Complaint withdrawn.
William H. Kohring	Ninth Dist. Civil, New York	....	Complaint withdrawn.

Inspections of Milk at Railroad Stations and Steamboat Landings.

During the months of July and August an inspection of milk arriving over the different railroads and steamboats for consumption in New York and Brooklyn was made, after the milk had been delivered by the common carriers to the grocers and pedlers. The plan adopted was, as usual, to obtain from the police department a detail of two or more officers for duty at each depot when inspections were made. With their assistance the wagons were formed in line as they came off the ferries or from the railroad depots into the streets. We then inspected the milk found on each wagon before allowing it to leave the line.

The milk arriving over the New York and Northern railroad, delivered at High Bridge station, comprising 275 cans was inspected on the night of August 28th.

The milk arriving over the New York and Harlem railroad, delivered at East Forty-eighth street and Lexington avenue, comprising 1,450 cans, was inspected on the night of August 19th.

The milk arriving over the New York, Ontario and Western railroad, delivered at West Eleventh street and West Forty-second street ferries, comprising 4,300 cans, was inspected on the nights of August 15th and 27th.

The milk arriving over the New York, Susquehanna and Western railroad, delivered at Cortlandt and Desbrosses street ferries, comprising 1,750 cans, was inspected on the nights of August 26th and July 14th.

The milk arriving over the Delaware, Lackawanna and Western railroad, delivered at Barclay and Christopher street ferries, comprising 5,700 cans, was inspected on the nights of August 13th and 26th.

The milk arriving over the Homer Ramsdell Transportation Company's boats, delivered at Franklin street and West One-hundred and Twenty-ninth street docks, comprising 725 cans, was inspected on the night of August 20th.

The milk arriving over the New York, Lake Erie and Western railroad, delivered at Chambers and Twenty-third street ferries, comprising 4,000 cans, was inspected on the nights of August 12th and 27th.

The milk arriving over the New Jersey Central railroad, delivered at Liberty street ferry, comprising 245 cans, was inspected on the night of July 14th.

The milk arriving over the Lehigh Valley railroad, delivered at Desbrosses and Cortlandt street ferries, comprising 740 cans, was inspected on the night of August 26th.

The milk arriving over the New York, New Haven and Hartford railroad, delivered at Montgomery and One Hundred and Twenty-ninth streets, comprising 1,100 cans, was inspected on the night of August 18th.

The milk arriving over the West Shore railroad, delivered at Franklin and West Forty-second street ferries, comprising 1,250 cans, was inspected on the nights of August 15th and 27th.

The milk inspected when delivered by each railroad and steamboat line, represents one day's shipment over each line for consumption in New York and Brooklyn, to which must be added 650 cans estimated as the average per day by miscellaneous conveyances. The result of these inspections showed, by the test applied, that only a small percentage had been adulterated. The following statement shows the amount of milk, cream and condensed milk received over the different routes on the day that the inspections were made, to wit:

RAILROADS.	Cans milk.	Cans cream.	Cans unsweetened condensed milk.
New York, Lake Erie and Western Railroad	4,000	230	84
New York Central and Harlem Railroad	1,450	10	61
New York, Ontario and Western Railroad	4,300	279	....
New York and Susquehanna Railroad	1,750	57	....
New York and Northern Railroad	275	....	....
West Shore Railroad	1,250	59	74
New York, New Haven and Hartford Railroad	1,100	5	....
Delaware, Lackawanna and Western Railroad	5,700	162	....
Homer Ramsdell Transportation Co	745	14	....
New Jersey Central Railroad	245	6	....
Long Island Railroad (estimated)	80	....	....
Lehigh Valley Railroad	740	16	....
Miscellaneous receipts by wagon (estimated)	650	....	....

Total cans daily, milk	22,285
Total cans daily, cream	838
Total cans daily, condensed milk	219
Total cans daily, all kinds	23,342

The above average daily receipts for August of crude milk, cream and condensed milk is equal to a daily receipt of 27,470 cans of crude milk.

Receipts of Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources, for the month of October, 1895.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk, cream and condensed milk.	Per cent over each route.
Erie	110,418	3,118	2,309	3,737	.180
New York Central and Harlem	67,050	818	2,717	2,261	.107
Ontario	102,252	3,522	....	3,412	.163
Susquehanna	50,246	810	....	1,647	.080
Northern	15,780	....	....	509	.024
West Shore	37,851	1,042	907	1,268	.060
New Haven	23,577	143	....	765	.038
Delaware, Lackawanna and Western	156,000	3,030	....	5,130	.249
Long Island	3,990	....	....	129	.006
New Jersey Central	6,492	163	....	215	.010
Homer Ramsdell Transportation Company	22,644	247	....	738	.035
Lehigh Valley	16,164	159	....	527	.025
Other sources	18,600	....	....	600	.029
Total cans	630,564	12,552	5,933	....	....

Total cans crude milk	630,564
Total cans cream	12,552
Total cans unsweetened condensed milk	5,933
Total cans all kinds	649.049
Daily average crude milk, cans	20,341
Daily average cream, cans	405
Daily average unsweetened condensed milk, cans	193
Average price crude milk to producer, per quart	$0 03
Average platform price per can, freight paid	1 50

Receipts Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources, for the month of November, 1895.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk, cream and condensed milk.	Per cent over each route.
Erie	105,564	3,549	2,101	3,707	.175
New York Central and Harlem	72,429	405	3,048	2,529	.119
Ontario	100,224	3,798	....	3,467	.163
Susquehanna	47,704	983	....	1,623	.076
Northern	15,197	....	....	507	.024
West Shore	36,809	883	905	1,287	.061
New Haven	23,870	142	....	800	.038
Delaware, Lackawanna and Western	151,566	2,500	....	5,135	.242
Long Island	4,074	....	....	136	.006
New Jersey Central	7,147	131	....	243	.012
Homer Ramsdell Transportation Co	22,740	310	....	768	.036
Lehigh Valley	12,821	140	....	432	.020
Other sources	18,000	....	....	600	.028
Total cans	618,145	12,841	6,054	....	....

Total cans crude milk	618,145
Total cans cream	12,841
Total cans unsweetened condensed milk	6,054
Total cans all kinds	637,040
Total average crude milk, cans	20,605
Total average cream, cans	428
Total average unsweetened condensed milk, cans	202
Average price crude milk to producer, per quart	$0 03
Average platform price per can, freight paid	1 62

Receipts of Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources, for the month of December, 1895.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk, cream and condensed milk.	Per cent over each route.
Erie	110,442	3,675	2,170	3,751	.180
New York Central and Harlem	81,288	742	3,461	2,758	.137
Ontario	95,642	3,041	....	3,183	.132
Susquehanna	49,143	921	....	1,615	.087
Northern	15,268	....	....	493	.035
West Shore	36,162	718	808	1,216	.057
New Haven	24,552	162	....	796	.036
Delaware, Lackawanna and Western	152,538	1,975	....	4,984	.204
Long Island	4,322	....	....	139	.008
New Jersey Central	7,802	186	....	258	.012
Homer Ramsdell Transportation Co.	24,471	311	....	800	.040
Lehigh Valley	11,375	88	....	370	.015
Other sources	18,600	....	....	600	.029
Total cans	631,575	11,819	6,439	....	....

Total cans crude milk	631,575
Total cans cream	11,819
Total cans unsweetened condensed milk	6,439
Total cans all kinds	649,833
Daily average crude milk, cans	20,373
Daily average cream, cans	381
Daily average unsweetened condensed milk, cans	208
Average price of crude milk to producer, per quart	$0 03
Average platform price per can, freight paid	1 48

Receipts of Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources, for the month of January, 1896.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk, cream and condensed milk.	Per cent over each route.
Erie	119,369	3,217	2,203	4,025	.193
New York Central and Harlem	84,607	1,023	3,468	2,874	.138
Ontario	94,819	2,789	....	3,149	.151
Susquehanna	52,722	743	....	1,725	.083
Northern	11,607	....	....	374	.018
West Shore	39,316	828	922	1,325	.064
New Haven	35,968	200	....	1,167	.056
Delaware, Lackawanna and Western	143,586	1,616	....	4,684	.225
Long Island	4,220	....	....	136	.007
New Jersey Central	7,901	177	....	260	.012
Homer Ramsdell Transportation Co.	3,883	90	....	795	.006
Lehigh Valley	11,321	58	....	367	.018
Other sources	18,600	....	....	600	.029
Total cans	627,914	10,741	6,593	....	....

Total cans crude milk	627,914
Totol cans cream	10,741
Total cans, unsweetened condensed milk	6,593
Total cans all kinds	645,248
Daily average crude milk, cans	20,255
Daily average cream, cans	347
Daily average unsweetened condensed milk, cans	213
Average price of crude milk to producer, per quart	$0 03
Average platform price per can, freight paid	1 43

Receipts of Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources, for the month of February, 1896.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk, cream and condensed milk.	Per cent over each route.
Erie	113,578	3,302	2,317	4,110	.199
New York Central and Harlem	77,575	922	3,087	2,812	.132
Ontario	91,404	2,423	....	3,235	.152
Susquehanna	50,336	906	....	1,767	.083
Northern	7,454	....	....	257	.012
West Shore	39,774	866	880	1,482	.067
New Haven	38,470	179	....	1,333	.062
Delaware, Lackawanna and Western	139,441	1,697	....	4,867	.229
Long Island	3,899	....	....	134	.006
New Jersey Central	7,058	151	....	249	.011
Homer Ramsdell Transportation Company	....	....	....	....	....
Lehigh Valley	11,607	96	....	404	.019
Other sources	17,400	....	....	600	.028
Total cans	597,996	10,544	6,234	....	....

Total cans crude milk	597,996
Total cans cream	10.544
Total cans unsweetened condensed milk	6,234
Total cans all kinds	614,774
Daily average crude milk, cans	20,621
Daily average cream, cans	364
Daily average unsweetened condensed milk, cans	215
Average price crude milk to producer, per quart	$0 03
Average platform price per can, freight paid	1 32

Receipts of Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources, for the month of March, 1896.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk cream and condensed milk.	Per cent over each route.
Erie	119,398	3,406	2,344	4,037	.189
New York Central and Harlem	79,163	1,067	3,614	2,705	.126
Ontario	101,204	2,799	....	3,355	.157
Susquehanna	53,185	857	....	1,742	.081
Northern	9,372	....	....	302	.014
West Shore	42,225	976	911	1,423	.067
New Haven	38,430	164	....	1,245	.058
Delaware, Lackawanna and Western	145,730	1,860	....	4,760	.223
Long Island	4,046	....	....	130	.006
New Jersey Central	7,782	186	....	257	.012
Homer Ramsdell Transportation Co	11,975	576	....	405	.019
Lehigh Valley	13,483	78	....	437	.020
Other sources	18,600	....	....	600	.028
Total cans	644,513	11,969	6,869	....	....

Total cans crude milk	644,513
Total cans cream	11,969
Total cans unsweetened condensed milk	6,869
Total cans all kinds	663,351
Daily average crude milk, cans	20,791
Daily average cream, cans	386
Daily average unsweetened condensed milk, cans	222
Average price of crude milk to producer, per quart	$0 02⅛
Average platform price per can, freight paid	1 22

Receipts of Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources, for the month of April, 1896.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk, cream and condensed milk.	Per cent over each route.
Erie	116,000	6,000	1,000	4,100	.179
New York Central and Harlem	66,340	888	8,082	2,344	.102
Ontario	110,784	5,630	....	3,880	.164
Susquehanna	52,227	1,344	....	1,786	.082
Northern	9,004	....	....	300	.013
West Shore	43,295	1,436	1,613	1,545	.067
New Haven	33,868	178	....	1,112	.048
Delaware, Lackawanna and Western	159,876	4,065	....	5,466	.239
Long Island	3,452	....	....	115	.005
New Jersey Central	7,311	182	....	250	.011
Homer Ramsdell Transportation Company	24,207	856	....	835	.036
Lehigh Valley	16,074	247	....	514	.023
Other sources	18,000	....	....	600	.026
Total cans	659,938	20,856	5,695	....	....

Total cans crude milk	659,938
Total cans cream	20,856
Total cans unsweetened condensed milk	5,695
Total cans all kinds	686,489
Daily average crude milk, cans	21,998
Daily average cream, cans	695
Daily average unsweetened condensed milk, cans	190
Average price crude milk to producer, per quart	$0 2⅛
Average platform price per can, freight paid	1 10

Receipts of Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources, for the month of May, 1896.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk, cream and condensed milk.	Per cent over each route.
Erie	184,626	7,180	4,207	4,710	.183
New York Central and Harlem	73,000	845	3,500	2,495	.097
Ontario	134,867	10,334	....	4,684	.182
Susquehanna	58,949	2,358	....	1,978	.080
Northern	9,503	....	....	307	.012
West Shore	44,638	2,006	1,494	1,553	.060
New Haven	37,254	209	....	1,209	.047
Delaware, Lackawanna and Western	184,858	6,174	....	6,162	.239
Long Island	3,548	....	....	114	.004
New Jersey Central	8,871	176	....	292	.011
Homer Ramsdell Transportation Co	27,358	1,112	....	919	.035
Lehigh Valley	21,002	569	....	696	.027
Other sources	18,600	....	....	600	.023
Total cans	757,074	30,963	9,201	....	....

Total cans crude milk	757,074
Total cans cream	30,963
Total cans unsweetened condensed milk	9,201
Total cans all kinds	797,238
Daily average crude milk, cans	24,422
Daily average cream, cans	999
Daily average unsweetened condensed milk, cans	297
Average price crude milk to producers, per quart	$0 02
Average platform price per can, freight paid	1 05

Receipts of Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources, for the month of June, 1896.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk, cream and condensed milk.	Per cent over each route.
Erie	124,491	6,894	2,471	4,462	.183
New York Central and Harlem	55,751	558	2,890	1,973	.082
Ontario	124,042	8,747	....	4,426	.184
Susquehanna	58,601	1,614	....	1,989	.083
Northern	9,395	....	....	313	.013
West Shore	39,701	2,140	1,325	1,439	.060
New Haven	36,501	190	....	1,223	.051
Delaware, Lackawanna and Western	165,000	5,250	....	5,675	.236
Long Island	3,130	....	....	104	.004
New Jersey Central	7,505	155	....	255	.011
Homer Ramsdell Transportation Co	25,737	1,113	....	895	.037
Lehigh Valley	20,362	872	....	708	.029
Other sources	18,000	....	....	600	.025
Total cans	688,216	27,533	6,686	....	....

Total cans crude milk	688,216
Total cans cream	27,533
Total cans unsweetened condensed milk	6,686
Total cans, all kinds	722,435
Daily average crude milk, cans	22,940
Daily average cream, cans	918
Daily average unsweetened condensed milk, cans	223
Average price crude milk to producer, per quart	$0 01⅞
Average platform price per can, freight paid	95

Receipts of Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources, for the month of July, 1896.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk, cream and condensed milk.	Per cent over each route.
Erie	130,185	8,087	2,553	4,548	.189
New York Central and Harlem	49,042	368	2,333	1,669	.069
Ontario	134,557	9,983	....	4,668	.194
Susquehanna	58,737	2,620	....	1,980	.082
Northern	8,834	....	....	285	.012
West Shore	39,751	2,294	2,052	1,422	.059
New Haven	36,833	160	....	1,193	.050
Delaware Lackawanna and Western	172,764	5,376	....	5,746	.239
Long Island	2,516	....	....	81	.003
New Jersey Central	7,861	165	....	259	.011
Homer Ramsdell Transportation Company	25,412	656	....	841	.035
Lehigh Valley	23,250	712	....	773	.032
Other sources	18,600	....	....	600	.025
Total cans	708,342	30,421	6,908	....	....

Total cans crude milk	708,342
Total cans cream	30,421
Total cans unsweetened condensed milk	6,908
Total cans all kinds	745,671
Daily average crude milk, cans	22,849
Daily average cream, cans	981
Daily average unsweetened condensed milk, cans	223
Average price crude milk to producer per quart	$0 02
Average platform price per can, freight paid	$1 20

Receipts of Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources for the Month of August, 1896.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk, cream and condensed milk.	Per cent over each route.
Erie	124,083	7,108	2,578	4,314	.185
New York Central and Harlem	45,970	317	1,896	1,554	.066
Ontario	132,460	8,639		4,552	.195
Susquehanna	54,830	1,750		1,825	.078
Northern	8,440			272	.012
West Shore	38,781	1,814	2,292	1,384	.059
New Haven	34,534	182		1,118	.048
Delaware, Lackawanna and Western	177,601	5,006		5,890	.252
Long Island	2,433			79	.003
New Jersey Central	7,587	172		250	.011
Homer Ramsdell Transportation Company	23,204	415		762	.033
Lehigh Valley	23,076	481		760	.033
Other sources	18,600			600	.025
Total cans	691,550	25,834	6,766		

Total cans crude milk	691,550
Total cans cream	25,834
Total cans unsweetened condensed milk	6,766
Total cans all kinds	724,150
Daily average crude milk, cans	22,308
Daily average cream, cans	833
Daily average unsweetened condensed milk, cans	218
Average price crude milk to producer per quart	$0 02¼
Average platform price per can, freight paid	1 33

Receipts of Crude Milk, Unsweetened Condensed Milk and Cream in New York by the Railroads and other sources for the month of September, 1896.

RAILROADS.	Cans crude milk.	Cans cream.	Cans condensed milk.	Daily average cans milk, cream and condensed milk.	Per cent. over each route.
Erie	127,862	4,244	2,029	4,471	.202
New York Central and Harlem	52,918	414	1,277	1,820	.082
Ontario	114,253	5,218	....	3,982	.179
Susquehanna	52,726	873	....	1,787	.081
Northern	8,226	....	....	274	.012
West Shore	35,814	844	832	1,250	.056
New Haven	31,747	....	....	1,062	.048
Delaware, Lackawanna and Western	152,670	28,875	....	5,185	.234
Long Island	2,517	....	....	84	.004
New Jersey Central	7,463	163	....	254	.011
Homer Ramsdell Transportation Co	22,839	407	....	775	.034
Lehigh Valley	19,920	875	....	676	.034
Other sources	18,000	....	....	600	.023
Total cans	646,955	15,413	6,771	....	....

Total cans crude milk	646,955
Total cans cream	15,413
Total cans unsweetened condensed milk	6,771
Total cans all kinds	669,139
Daily average crude milk, cans	21,565
Daily average cream, cans	514
Daily average unsweetened condensed-milk. cans	188
Average price crude milk to consumer, per quart	$0 02
Average platform price per can, freight paid	1 12

Total receipts over all roads for the year ending September 30, 1896.

MONTH.	Cans crude milk.	Cans cream.	Cans unsweetened condensed milk.	Average market price to producer per quart.	Platform price per can, freight paid.
1895.					
October	630,564	12,552	5,933	$0.03	$1 50
November	618,145	12,841	6,054	0.03	1 63
December	631,575	11,819	6,439	0.03	1 48
1896.					
January	627,914	10,741	6,593	0.03	1 43
February	597,996	10,544	6,234	0.03	1 32
March	644,513	11,969	6,869	0.02½	1 23
April	659,938	20,856	5,695	0.02⅛	1 10
May	757,074	30,963	9,201	0.02	1 05
June	688,216	27,583	6,686	0.01⅞	95
July	708,342	30,421	6,908	0.02	1 20
August	691,550	25,834	6,766	0.02⅛	1 33
September	646,955	15,413	6,771	0.02	1 12
	7,902,782	221,486	80,149	....	....

Total cans crude milk	7,902,782
Total cans cream	221,486
Total cans unsweetened condensed milk	80,149
Estimated value (freight included)	$13,063,131 20

Daily average cans crude milk	21,651
Daily average cans cream	607
Daily average cans unsweetened condensed milk	219

The above amount of milk does not include milk sold to condensers, most of which reaches the New York market in small cans, which is estimated to equal 1,875,000 cans.

Estimated value	$2,718,750 00
Estimated value, as shown above	13,063,131 20
	$15,781,881 20

The above receipts of milk, cream and condensed milk is equal to 11,205,808 cans of crude milk, of 40 quarts each, or 448,232,320 quarts, representing a daily receipt of 1,228,033 quarts of crude milk.

In conclusion, I take great pleasure in stating that I have been very kindly assisted by the State's agents in this division of the Department of Agriculture in making this annual report, and herewith express my thanks to them.

Very respectfully,
FREDERICK J. H. KRACKE,
Assistant Commissioner of Agriculture.

REPORT OF HENRY S. AMBLER.

Hon. Charles A. Wieting, *Commissioner of Agriculture:*

Dear Sir.— I respectfully submit the following report of the third division, comprising the counties of Columbia, Delaware, Dutchess, Greene, Orange, Putnam, Rockland, Sullivan, Ulster and one-half of Westchester, for the year ending September 30, 1896. My appointment as assistant commissioner took effect on the 1st day of June, 1896; consequently, I have personal knowledge of the business of the division from that date only. I have obtained from the agents employed accurate information of the work performed by them during the year, and of matters that came under their observation relating to the Department. Upon assuming my duties, I immediately made a personal inspection of the work being done by the agents, with a view of suggesting to you, as you requested, any change that would improve the efficiency of the Department.

I found that the lactometer in the hands of the most experienced men in the division was not a reliable guide, even with their keen sense of sight and taste; the agents were from time to time taking samples that upon analysis showed above the State requirements, thus entailing an unnecessary expense on the State. Upon finding this so, and reporting to you and asking that you send one of the best experts in the State to make, with the agents and myself, experiments at some of the large creameries, you sent Mr. W. W. Hall, one of the State cheese instructors, who is also employed by Cornell University as instructor on milk and the products thereof; he tested with the lactometer and the Babcock test and saw chemical analyses, and found a phenomenal condition of milk, such as he had not discovered before in his twenty-five years' experience; found samples taken from a full 40-quart can that stood by lactometer at 120 gravity, at 60 temperature having appearance of skim milk, which showed by the Babcock test 4½ per cent. fat, and chemical analysis showing about the same amount of fat. We had previously taken a sample that stood at 87 gravity at 60 temperature, which analysis showed contained 7½ per cent. fat. (I mention these two to show the extremes where we would expect to find large adulteration and skimming.) These tests showed conclusively that it was necessary to have some other means of testing milk beside the lactometer (which is a very good guide in most cases) before samples were sent to the chemist for analysis. As you have now furnished the agents with the Babcock testers, they will be enabled to ascertain almost to an absolute certainty the amount of butter-fat in the samples, and with Dr. Babcock's formula they can ascertain very nearly the amount of solids in the milk and thus be able to know whether the sample of milk taken is below the State standard before they put the Department to the expense of having an analysis made by a chemist. The present State standard of milk, which is that it shall not contain less than 12 per centum of milk solids, and not less than 3 per centum of fats, is considered by creamery men as too low as regards its fat, as it gives great opportunity for adulteration by skimming. I understand that an effort is to be made to have the next Legislature raise the standard to 4 per centum fat. I am not prepared to express an opinion as to the advisability of such a change, but can say that there has been samples taken that had part of the cream removed, but there was still fat enough left in the milk to pass the State standard. We have taken many samples that evidently had part of the cream removed and skim-milk added to make up the solids. If the law could be amended so as to define the percentage of the different solids in milk it would stop, in a great measure, the adulteration by addition of skim-milk, as there would be an excess of certain solids. I have obtained for your information the average per cent. of fat for the year found in the milk reserved by a few creameries located in different sections of this division, which are as follows:

Brooks & Lakey's Creamery, Coleman's, Dutchess county, N. Y., 4.3 per cent.

J. V. Jordan's Creamery, Wappingers Falls, N. Y., 3.9 per cent.

T. W. Decker's Creamery, Pawling, N. Y., 4.4 per cent.

Almeada Association Creamery, Almeada, Delaware county, N. Y., 4.8 per cent.

Sheffield Farms Creamery, Hobart, Delaware county, N. Y., 4.8 per cent.

Sheffield Farms Creamery, Bloomfield, Delaware county, N. Y., 5.2 per cent.

Belby Creamery, Sanford, N. Y., 3.5

Philo Home Creamery, Sanford, N. Y., 4.4 per cent.

Arctic Creamery, Franklin, N. Y., 5.1 per cent.

Howell's Condensery, Goshen, N. Y., 4 per cent.

Sanford Creamery, Delhi, N. Y., 4.5 per cent.

Jeffersonville Creamery, Delaware, N. Y., 3.2 per cent.

Willis Creamery, Masonville, N. Y., 4 per cent.

Gifford Creamery, Tompkins, N. Y., 3.7 per cent.

Gifford Creamery, Masonville, N. Y., 3.4 per cent.

D. W. Lewis Creamery, Tompkins, N. Y., 4.5 per cent.

The amount of milk shipped from the different stations in this division to New York city during the past year subject to inspection of our agents was 212,937,240 quarts. In addition there is a large quantity of milk delivered to the different cities and villages of this division by milk pedlers which is also subject to the inspection of our agents.

Tuberculosis.

The agents during the past year in their inspections have frequently found dairies that had cows infected with tuberculosis. As this disease does not come under the control of this Department they could only notify the parties not to sell the milk from such cows. The spread of this disease has become a very serious matter and as the health of the public is endangered by the use of the milk from cows in advanced stage of this disease, I call your attention to the fact in hopes that legislation may be had that will give this Department power, at least, to suppress the sale of milk from any infected herd and to order such sanitary conditions as may tend to check the spread of the disease, as it has been clearly shown that tuberculosis has been and can be transmitted through the milk from a tuberculous cow; there have been cases of that kind that have come to the attention of the agents of this division the past year; I will name that of Mr. Paul Devereaux, Delaware county, N. Y., who owned a herd of ninety Jersey cows. Mr. Devereaux died December 7, 1895, with consumption. On the 18th of December one of our agents discovered tuberculosis in this herd, ordered the sale of the milk to be stopped and notified the Department; fifty-five of the cows were found to be affected and were killed. On the 22d of December Raymond Mulford, aged ten months, died with consumption. The child was fed from one cow's milk of this herd. This cow, when killed, was found very badly diseased, having tuberculosis on her udder. On January 15, 1896, D. Gardner died with consumption. He worked with this herd as butter-maker for several years. Not one, with the exception of those above mentioned, from either of the three families, as far as known, ever had consumption.

Another of our agents ordered the sale of milk stopped from a herd he found badly affected in Ulster county this past spring. The owner stopped selling milk and fatted calves. This same agent saw several of the calves butchered that were fatted on those cows that had tuberculosis in their abdominal organs. I quote on this subject from several experimental station bulletins and from the report of United States Bureau of Animal Industry.

Extracts from Bulletin Wisconsin Experiment Station:

"The danger arising from the consumption of tuberculous meats is, however, much less than from milk for the following reasons:

"First. Meat is consumed usually in a cooked condition and thus undergoes in the process of cooking a temperature sufficiently high to kill the disease germ if present. Rare meats, however, are capable of producing infection if they contain bacilli, as the temperature of the interior of the flesh is not raised to the death point of the bacilli.

"Second. In almost all cases where the animal is affected with the disease the germs are found localized in the internal organs (abdominal and thoracic viscera) and are usually not present in the muscular parts that are used for food unless the disease is much advanced. With milk the condition is very different. In the first case milk consumed either in the form of milk, cream, butter, or cheese is not subjected to a temperature sufficiently high to kill the germs. Then, too, the disease being more common with dairy cattle, the opportunities for transmission by means of the milk are much greater than with the meat. Especially is this true with children, as milk is such a prominent element of their diet.

"Now, it is well known that tubeculosis in an animal, say a dairy cow, does not necessarily mean that that animal has tubercle bacilli present in the milk. If the disease is localized in the udder it would, of course, be fool-hardy and nothing less than criminal to use the milk for human food. Tuberculosis is often a localized disease and the bacilli are to be found only in the affected organs. Now, if the disease be present in an incipient stage and localized in some organ distant from the udder, it may be possible that the animal in question would never, in the course of the disease, have tubercle bacilli in the milk. But if tuberculosis is present, even in an incipient stage, the element of danger is evident, the barriers of the body are already broken down and the invading disease is within the lines of defense. Whether it is held in abeyance or not is a question that depends upon the virulence of the invading germ and the resisting properties of the body, questions concerning which we have no positive knowledge in each individual case. So that while tuberculous cattle may not always transmit contagion in their milk, the possibility of such a course is always to be considered. With cholera or small-pox we quarantine this factor, and by taking time by the forelock prevent an epidemic, rather than to wait until after one had broken out, then attempt to stem its progress."

Quoted from report of Connecticut Board of Agriculture and Experimental Station for 1895:

"In Massachusetts there has recently been made a long series of investigations on calves, in which it was demonstrated that the milk of tuberculous cattle, where fed to calves, gives tuberculosis to the calves. Experiments on the human race are not wanting; not intentional experiments, but accidental ones; experiments which are, however, just as convincing. For instance: In a boarding-house in Paris there were fourteen girls between the ages of eight and fifteen. Suddenly, within a few months, eight of these girls contracted consumption and several of them died, and it was found that they all drank milk from one cow and that that cow was tuberculous.

"There is a demand that the public has a right to make that every tuberculous cow should be excluded from the herd that furnishes the public milk."

*In the report of the investigations concerning bovine tuberculosis, conducted under the direction of Dr. D. E. Salmon, chief of the Bureau of Animal Industry, at Washington, D. C., by E. C. Schroeder, M. D. V., he says:

"The inference may be that a careful inspection of all dairy herds which has for its object the detection and removal of all advanced cases of tuberculosis, and especially of cows with diseased udders, would probably exclude the sale of most infected milk."

Dr. Schroeder, after discussing general sanitary measures, says:

"These suggestions might be criticised because they tacitly assume that a herd can live and thrive even when tuberculosis is present. This criticism may be answered by the fact experimentally demonstrable that the introduction into the body of the very susceptible guinea pig of different numbers of tubercle bacilli is followed by a rapidly or a very slow progressive disease, according to the quantity of virus; hence, if even where tuberculosis is present and not recognizable all precautions are taken to reduce in every possible way the number of tubercle bacilli in the air, the food and the milk, it is evident that if the experimental data are accurate the amount and intensity may be reduced, and possibly the unavoidable slight infection become healed. It is not the purpose of the writer to make the neglect of the tuberculin test justifiable, but it is evident that with the present great prevalence of tuberculosis all means must be resorted to to keep the disease from making still further inroads. The more conservative such means the more likely are they to find favor. The amount of disease to be combatted, the large financial resources required by more radical measures, makes it probable that the measures suggested will have to be kept in operation for an indefinite time to come."

Now, while I am aware that the discussion of this subject may by some seem outside of my duty, my views are that milk from a

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* United States Department of Agriculture, Bureau of Animal Industry, Bulletin No. 7, pages 86 and 136.

cow infected with tuberculosis is unhealthy milk, and as such the sale of it is a violation of the law; this brings the matter entirely within the province of the Department, but if we are to be allowed to deal with it only from the milk standpoint (that is, where we are able to show that tubercles are present in the milk), we are, in my judgment, rendered practically helpless to stop its sale, as it would require the services of a bacteriologist constantly in all suspected herds. I am therefore of the opinion that this Department should be given power to deal with this disease in a practical way.

Army Worm and Grasshopper.

The army worm and grasshopper have done considerable damage the past season in this division, particularly in Sullivan, Delaware, Dutchess and Columbia counties. In one town in Delaware county it is estimated there was $60,000 worth of crops destroyed by them. In some sections they appeared twice. They first appeared about the first of July; damaged rye, oats and new seeding. They worked for about three weeks, then went in the ground and appeared again the first week in September and damaged millet, new seeding and rye. Have reports from a large number of farmers estimating the damage they individually sustained, ranging from $100 to $1,000 each.

Detailed Report of Work Performed.

The following is a detailed report of the work performed by the agents in this division of the Department from October 1, 1895, to and including September 30, 1896:

REPORT OF R. H. PALMER.

Number of days in court	7
Number of days inspecting milk	208
Obtaining evidence	7
Number of days on special duty	65
Number of days inspecting herds	23
Total number of days	310

Number of creameries inspected	40
Number of condenseries inspected	3
Number of butter creameries inspected	11
Number of milk pedlers inspected	7
Number of creamerymens' milk inspected delivered on railroad	43
Number of dairymens' milk inspected on delivery at creameries and railroad depots	2,800
Number of dairymens' milk inspected delivered at butter creameries	714
Number of cans of creamerymens' milk inspected on milk train on railroad	11,784
Number of cans of dairymens' milk inspected on delivery at creameries and railroad depots	2,889
Number of cans of dairymens' milk inspected on delivery at butter creameries	1,600
Number of cans of pedlers' milk inspected	20
Total number of cans of milk inspected	16,293
Total number of samples delivered to chemist	22
Total number of complaints made	8
Estimated number of miles traveled	20,000

REPORT OF WALTER J. BENNETT.

Number of days in court	1
Number of days inspecting milk	168
Number of days inspecting herds	3
Number of days obtaining evidence	1
Number of days inspecting stores	18
Number of days on special duty	79
Total number of days	270

Number of creameries inspected	99
Number of butter creameries inspected	3
Number of milk pedlers inspected	98

Number of stores and restaurants inspected	106
Number of stables inspected	3
Number of cows inspected	155
Number of cheese factories inspected	2
Number of creamerymens' milk inspected on delivery at railroad stations	18
Number of dairymens' milk inspected on delivery at railroad stations and creameries	3,144
Number of cans creamerymens' milk inspected on delivery at railroad stations	878
Number of cans of dairymens' milk inspected on delivery to creameries and railroad stations	8,709
Number of cans of pedlers' milk inspected	340
Number of cans of milk inspected, store	31
Total number of cans of milk inspected	9,958
Number of samples delivered to the chemists	12
Estimated number of miles traveled	14,230

REPORT OF M. DUGAN.

Number of days in court	6
Number of days inspecting milk	143
Number of days inspecting stores	16
Number of days inspecting herds	4
Number of days obtaining evidence and serving papers	14
Number of days on special duty	59
Total number of days	242

Number of creameries inspected	68
Number of condenseries inspected	3
Number of butter creameries inspected	2
Number of cheese factories inspected	1
Number of milk pedlers inspected	96
Number of stores inspected	164
Number of stables inspected	3
Number of cows inspected	125

Number of creamerymens' milk inspected on delivery at boat and railroad depots	21
Number of dairymens' milk inspected on delivery at creameries and railroad depots	2,697
Number of cans of creamerymens' milk inspected on delivery at boat and railroad depots	1,378
Number of cans of dairymens' milk inspected on delivery at creameries and railroad depots	7,779
Number of cans of dairymens' milk inspected on delivery at butter creameries	57
Number of cans of dairymens' milk inspected on delivery at cheese factories	34
Number of cans of pedlers' milk inspected	278
Number of cans of store milk inspected	41
Total number cans of milk inspected	8,188
Total number samples delivered to chemist	11
Total number of complaints made	11
Total number appearances in cases	4
stimated number of miles traveled	9,080

Prosecutions.

The following statement shows the prosecutions for the violation of the Agricultural Law in the third division for the year ending September 30, 1896:

CASE No. 921.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Witnesses: M. Dugan, F. E. Deyo, and chemist, Jos. F .Geisler.

CASE No. 919.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Remarks: Case settled; paid penalty, $100.

CASE No. 914.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Witnesses: M. Dugan, T. Clark, and chemist, Jos. F. Geisler.

CASE No. 916.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Witnesses: M. Dugan, Peter Balhere, and chemist, Jos. F. Geisler.

CASE No. 920.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Witnesses: M. Dugan, F. E. Deyo, and chemist, Jos. F. Geisler.

CASE No. 918.

Supreme Court.

Summons and complaint issued.

Counsel: H. B. Fullerton.

Case settled; paid penalty, $100.

CASE No. 936.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Case settled; paid penalty, $100.

CASE No. 77.

Supreme Court.

Counsel: H. B. Fullerton.

Witnesses: R. H. Palmer, Frank Higby, and chemist, Jos. F. Geisler.

CASE No. 78.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Case settled; paid penalty, $100.

CASE No. 79.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Witnesses: R. H. Palmer, and chemist, Jos. F. Geisler.

CASE No. 88.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Case settled; paid penalty, $100.

CASE No. 83.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Witnesses: R. H. Palmer, S. Donahue, and chemist, Jos. F. Geisler.

CASE No. 1115.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Witnesses: W. J. Bennett, and chemist, Jos. F. Geisler.

CASE No. 1119.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Witnesses: W. J. Bennett, J. W. McCauley, and chemist, Jos. F. Geisler.

CASE No. 1120.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Witnesses: W. J. Bennett, J. W. McCauley, and chemist, Jos. F. Geisler.

CASE No. 82.

Supreme Court.

Counsel: M. H. Heishberg.

Case still pending.

CASE No. 97.

Supreme Court.

Counsel: M. H. Heishberg.

Case still pending.

CASE No. 927.

Supreme Court.

Counsel: M. H. Heishberg.

Case still pending.

CASE No. 932.

Supreme Court.

Counsel: **M. H. Heishberg.**

Case settled.

CASE No. 933.

Supreme Court.

Counsel: **M. H. Heishberg.**

Case settled.

CASE No. 934.

Supreme Court.

Counsel: **M. H. Heishberg.**

Case still pending.

CASE No. 935.

Supreme Court.

Counsel: **M. H. Heishberg.**

Case settled.

CASE No. 1111.

Supreme Court.

Counsel: **M. H. Heishberg.**

Case still pending.

CASE No. 1113.

Supreme Court.

Counsel: **M. H. Heishberg.**

Case still pending.

CASE No. 1956.

Supreme Court.

Counsel: **M. H. Heishberg.**

Case still pending.

CASE No. 1114.

Supreme Court.

Counsel: M. H. Heishberg.

Case still pending.

CASE No. 1117.

Supreme Court.

Counsel: M. H. Heishberg.

Case still pending.

CASE No. 1118.

Supreme Court.

Counsel: M. H. Heishberg.

Case still pending.

CASE No. 926.

Supreme Court, Orange County.

Summons and complaint served.

Counsel: A. B. Gardenier.

Witnesses: M. Dugan, H. W. Dolson, and chemist, Jos. F. Geisler.

Remarks: No answer. Inquest not yet taken.

CASE No. 924.

Supreme Court.

Summons and complaint served.

Counsel: A. B. Gardenier.

Witnesses: M. Dugan, F. L. Slaughter, and chemist, Jos. F. Geisler.

Remarks: Passed October Circuit. Will be tried in April.

CASE No. 925.

Supreme Court, Orange County.

Summons and complaint served.

Counsel: A. B. Gardenier.

Witnesses: M. Dugan, F. L. Slaughter, and chemist, Jos. F. Geisler.

Remarks: Passed October Circuit. Will be tried in April.

CASE No. 1959.

Supreme Court, Sullivan County.

Summons and complaint served.

Counsel: A. B. Gardenier.

Witnesses: R. H. Palmer, E. E. Elton, and chemist, Jos. F. Geisler.

Remarks: No answer. Will be settled without application to court.

CASE No. 1968.

Supreme Court.

Summons and complaint served.

Counsel: A. B. Gardenier.

Witnesses: R. H. Palmer, E. E. Elton, and chemist, Jos. F. Geisler.

Remarks: Defendant resides in Pennsylvania. No service yet.

CASE No. 1121.

Supreme Court, Orange County.

Summons and complaint served.

Counsel: A. B. Gardenier.

Witnesses: W. J. Bennett, M. Dugan, and chemist, Edward J. Wheeler.

Remarks: Demanded bill of particulars, September. Case over until April on promise of defendant to pay penalty.

CASE No. 1122.

Supreme Court.

Counsel: A. B. Gardenier.

Witnesses: W. J. Bennett, M. Dugan, and chemist, Edward J. Wheeler.

Remarks: Defendant dead.

CASE No. 937.

Supreme Court, Westchester County.

Summons and complaint served.

Counsel: A. B. Gardenier.

Witnesses: M. Dugan, W. J. Bennett, and chemist, Jos. F. Geisler.

Remarks: Notice of appearance from W. H. Robinson, August 24th; time to answer extended twenty days; September 14, further extension of five days; September 21, copy of answer received; case not moved owing to illness of Judge Robinson.

CASE No. 1966.

Supreme Court, Delaware County.

Summons and complaint served.

Counsel: S. W. Smith.

Witnesses: R. H. Palmer, W. S. Wales, and chemist, Edward J. Wheeler.

CASE No. 940.

Supreme Court, Westchester County.

Summons issued.

Counsel: S. W. Smith.

Witnesses: W. J. Bennett, M. Dugan, and chemist, Jos. F. Geisler.

CASE No. 941.

Supreme Court, Dutchess County.

Summons and complaint served.

Counsel: S. W. Smith.

Witnesses: W. J. Bennett, M. Dugan, and chemist, Edward J. Wheeler.

CASE No. 2864.

Supreme Court, Delaware County.

Summons and complaint served.

Counsel: S. W. Smith.

Witnesses: R. H. Palmer, C. T. Magoldasby, and chemist, Edward J. Wheeler.

CASE No. 912.

Supreme Court.

Summons and complaint served.

Counsel: H. B. Fullerton.

Witnesses: M. Dugan, A. W. Wall, and chemist, Jos. F. Geisler.

Respectfully submitted,

HENRY S. AMBLER,

Assistant Commissioner.

REPORT OF T. JAMES OWENS.

Hon. Charles A. Wieting, *Commissioner of Agriculture:*

Dear Sir.—As assistant commissioner of agriculture, I have the honor of submitting to you my first annual report, dating from the 15th day of May, 1896, of the fourth division of your department, comprising the counties of Essex, Fulton, Herkimer, Montgomery, Oneida, Oswego and Warren, for the year ending September 30, 1896.

Our time has been fully occupied during the entire season, but more especially during the months of July, August and September, in the inspection of milk received at the factories, milk stations and milk pedlers in the larger cities of this division. While there are a few violations of the law I think this season compares favorably with previous seasons in that respect. Not only have the agents been vigilant in detecting any violations of the law, but they have always been ready and willing to give instruction in the care of cans, vats and the surroundings of each factory. To me, that is of great import in the making of a uniform and good quality of cheese. It is by care of the little details that we get the best results. The success of any factory depends largely upon its patrons; therefore his duties are important. The majority of bad taints in milk are caused by some foul flavor, the sources of which are unclean milk cans or milk pails, filthiness in the milking, badly ventilated milking stables impregnated with poisoned or vitiated atmosphere, decaying animal or vegetable matter, stagnant pools of water or unhealthy drinking water. It is bad practice to allow milk in pails in close confined stables; it should be strained as soon as milked through an aerator in a cool, pure atmosphere, which not only cools the milk but removes the animal heat which is a very desirable thing to do. The milk pails and milk cans should be thoroughly washed with luke-warm water and then thoroughly sterilized with boiling hot water. I might go more into detail but let this suffice.

FEED OF COWS.

Evidence is not wanting to show, as might be anticipated, that the quality of the milk is influenced by the nature of the food. Our knowledge is still imperfect regarding the precise effect exerted by different alimentary articles on the amount of the respective constituent principles of milk; but this much has been clearly ascertained, that an insufficient diet quickly leads to its impoverishment in solid material. It is nothing more than might be expected that to maintain the milk in good condition a proper and sufficient diet must be supplied, and no food can be considered equal to that which is yielded by the fresh pasture of country fields, which gives a richness, sweetness, and agreeable aroma which cannot be supplied by any other mode of feeding. The medical practitioner is likewise well aware that medical agents produce their effect upon the milk. Infants may be purged by the use of drastic purgatives given to the mother as well as narcotized by the use of opiates. It is impossible to exaggerate the importance of securing pure milk from the most healthful source. There are other dangers to which the human race is exposed, from consuming milk from cows which are diseased or milk that is tainted. Nothing but the most stringent measures can effectually remedy the abuses that prevail. The inspection of milk in this division has been thorough and systematic and our field has been covered, and in many places more than once, resulting in much good, even where no violations have occurred, in the better condition of milk and in the care of utensils in the factories. The expert inspector is welcomed both by the cheese-maker and patrons.

The agents in this division have made over 3,000 examinations during the summer, visiting nearly every factory; and the custom has been to examine vinegar during the unoccupied day if in towns where vinegar is sold in large quantities.

I had two inspectors visit all the larger towns along the New York Central Railroad from Amsterdam to Utica, for the purpose of testing the quality of vinegar in those towns, and found but two samples below the standard; as a rule, the examiner found it of the legal standard, which is very gratifying.

I am happy to report that there has been no epidemic or prevailing disease among the cattle of this division this season.

The following is a list of the doubtful samples taken during the months of June, July, August and September, which were below the standard upon analysis:

Label No. 2327; Label No. 893; Label No. 2328; Label No. 2503; Label No. 2504; Label No. 3951; Label No. 3705; Label No. 2505; Label No. 3964; Label No. 3952.

Those who have been associated with me in the work I desire to thank for their indulgence and the promptness with which they have responded to my calls.

Yours truly,

T. JAMES OWENS,
Assistant Commissioner.

REPORT OF S. BROWN RICHARDSON.

Hon. Charles A. Wieting, *Commissioner of Agriculture:*

Dear Sir.—I have the honor to submit herewith a report of the work done in the fifth division of the Department of Agriculture of the State of New York for the year ending September 30, 1896.

The magnificent work done by the Agricultural Department of the State government during the past ten years, through its butter and cheese instructors, has been the subject of frequent observation and remark by me. I have had occasion as a dealer in butter and cheese, to note the changes that were going on, and to compare the "go-as-you-please" product of the anti-Department days, with the finished article of the past few years. I desire, more particularly in this connection, to speak of the cheese manufactured in the counties of Lewis and Jefferson, because I am more familiar with the *history and growth* of the cheese industry, and the *history* of the butter industry, in this locality, and also because the dairymen in these counties have given more studious attention to the conditions and theories attending the manufacture of fancy cheese than they have to the best methods of making butter.

I well remember the time when a buyer, with an order for cheese, found it necessary to ride from factory to factory, and from dairy to dairy, examining and grading each lot as it appeared, and paying, during the day, as many different prices as he bought different lots of cheese.

In those days there were few cheese made that would now be graded as choice stock, and the peculiar imperfections found in a given factory or dairy, would remain there all through the season, and in many cases, year after year, as the effect of a cause that remained unexplained.

It is most gratifying to me to be able to state that a majority of the factories to-day are delivering cheese that are recognized as choice stock; and when we remember that the standard of fancy cheese has advanced at an even pace with improved methods of manufacture, both in Europe and this country, we may judge how far-reaching and important are the advantages secured to this great industry by the State Department of Agriculture.

It has been the custom of cheese factories, whenever from any cause the cheese-maker found conditions in the milk, under which he could not make a satisfactory article of cheese, to request the assistant commissioner of agriculture, for the division in which the factory was located, to send an instructor for the purpose of ascertaining where the trouble was, and, if possible, to remove the cause of trouble. During the flush of the milk flow, and in fact, continually during the months of May, June, July and August, requests for assistance of this character have been far beyond the ability of the Department to supply with its present force of instructors.

It has, however, been most clearly demonstrated, that with the present facilities, thousands of dollars have been added annually to the market value of cheese made in the factories of Jefferson, Lewis and St. Lawrence counties, and that the expense of this service to the State, has been most trifling, when compared with the advantages secured to the producers and consumers of cheese.

In connection with, and in confirmation of the above, I respectfully call your attention to the fact, that at the National Columbian Exposition, at the many State and county fairs of this and other States, the cheese manufactured in northern New York, as to appearance, texture and flavor, has demonstrated the justice of our claim, that the Department of Agriculture has already realized the expectations of the power that created it.

The counties of Clinton, St. Lawrence and Franklin, which, with Lewis and Jefferson, form the fifth agricultural division of this State, are more largely interested in the production of butter. Many butter factories or creameries in these counties are furnished with facilities and appliances unsurpassed in the butter-making industries of the world; facilities that reflect credit on the great State that fosters and encourages their use, and honor on the industry and enterprise of those who have furnished the capital necessary to build and equip them.

I respectfully call your attention to suggestions along the line of butter-making, and for the correction of existing abuses found in an article prepared by instructor Rees of this Department, and contained in his annual report to me.

My attention has been called to the fact that there are many kinds of rennet extract being sold, not only in this agricultural division, but throughout the cheese manufacturing districts of the State. All brands of this preparation are sold for pure extract of rennet; but it is believed that impure ingredients are often used in compounding these liquids, to the great detriment of the cheese when ready for market and most prejudicial to the health of consumers. There seems to be well-attested instances where an inferior quality of cheese can be traced to no other cause than that of rennet extract. Upon this topic I venture the suggestion, that a series of experiments be made to determine a just and proper standard of strength and quality of rennet extract, to be used for the coagulation of milk in the cheese factories of this State, to the end that the same be incorporated in our agricultural laws.

On December 5th I addressed a letter to Instructor W. W. Hall of this division, relative to the subject of rennet; his most interesting and instructive reply follows:

Mr. S. BROWN RICHARDSON, *Assistant Commissioner of Agriculture,*
Lowville, N. Y.:

Dear Sir.—In reply to yours of recent date, I would say that it is very important that rennet should be, not only pure and clean, free from undesirable germs of bacteria that are liable to, and in some cases do, produce a bad-flavored cheese, but it is also very necessary that it is free from acid, or other adulteration, used for the purpose of cheapening the product, and yet that keeps up the coagulating power. Rennet belongs to that class of ferments which are known as chemical, or unorganized ferments; it has no power to reproduce itself. Russell says: "Unorganized ferments are those in which the change is caused by a chemical substance, derived of vitality, that is not itself changed in the fermenting process. These unorganized nonvital ferments are known as enzymes; among the better known of these are rennet, which has the power of coagulating milk."

In cheese-making bacteria are absolutely indispensable, since there can be no doubt whatever that what imparts to a cheese its characteristic properties, and, indeed, renders it so desirable an article of food, viz., its flavor, is due to the action of the different kinds of bacteria, or classes of bacteria. It is well known by bacteriologists, that bacteria cannot live in an acid medium; and any adulteration of rennet that would effect this growth in cheese-curing would certainly injure the quality. There are many brands of rennet extract on the market, sold a little under price, claimed to be as strong as the best, which may be true, yet its strength is due to the acids used in making it, which are cheaper than rennet. The proper flavor in cheese is the result of a ripening process, in which the chief agents are bacteria. Prof. Conn, of Connecticut, and Prof. Russell, of Wisconsin, have given the subject of cheese-curing a great deal of attention; and I am sure that all of the experiments I have made, using small and large quantities of rennet extract and making cheese from Pasteurized and sterilized milk, show that all their conclusions are correct. There are a few brands of rennet extract, sold by reliable firms, that are always pure and free from adulterations that will in any way effect the quality of cured cheese. No other way of coagulating milk has yet been discovered that furnishes as fine conditions for the curing to go on undisturbed as does rennet; but rennet plays no part in cheese-making except to coagulate the milk, and, perhaps, to assist in expelling the moisture from the curd. That curing is not due to rennet action is proved by the fact that sterilized milk, made into cheese, will not cure; no matter how much rennet is used or how favorable other conditions may be. You are correct in the position you take, that much depends on the purity of rennet in cheese-making, and I advise our factory men to purchase nothing but the best and purest brands.

Yours truly,

W. W. HALL.

I am in possession of facts leading to the belief that the law relative to, and regulating the sale of vinegar, has been violated continually in the cities and villages of northern New York. Agents of this Department have given some attention to these violations, but have not been able to do this part of the work full justice, owing to the continual press of engagements to examine milk, and to give instructions in the manufacture of butter and cheese. It is my present intention to look more particularly after the violators of the law relating to the sale of vinegar, and to see that the provisions of that law are rigidly observed.

There is a general complaint among the instructors and agents of this division that they are unable to attend to all the calls for help that come to them from butter and cheese factories. Such calls are answered in the order of their reception, except in aggravated cases, or when they find it inconsistent with the proper economy of time or expense. During the summer months the force at my command is entirely inadequate; the last report of your Department places the number of butter and cheese factories in this division at 435; and the most urgent calls for assistance are crowded into a space of three or four months. Many of these calls for an instructor come from factories whose daily loss from the manufacture of defective butter or cheese, amounts to 20 per centum. It is therefore of the utmost importance that efficient assistance reaches them, and that very soon. Note also that the instructor sent there, if he restores normal conditions, and brings order out of an existing chaos, may find it necessary to spend several days at the factory and among the patrons who furnish the milk. It follows that much loss would be averted if the force of butter and cheese instructors could be augmented during the summer months.

The instructors and agents of this division, sent out by your Department, have been untiring in their efforts to bring about the conditions aimed at by the framers of the agricultural laws of this State; and the general high character of the butter and cheese produced in this division, testifies in a most convincing and practical manner to their faithfulness and efficiency. The reports of these instructors, which I append, will furnish a more detailed and comprehensive account of the work done in this division during the last year.

REPORT OF W. W. HALL.

Mr. S. BROWN RICHARDSON, *Assistant Commissioner of Agriculture:*

Dear Sir.— Herewith I respectfully submit this, my ninth annual report for the year ending September 30, 1896.

It seems to me that the report of the quality, quantity and the condition of the milk that is daily being delivered to our butter and cheese factories and to our condenseries, would be proper. There is no State in the Union possessing better conditions for the production of milk than are found in the State of New York. The fine grasses of our uplands and hillsides, and the pure running streams, coming as they do from never failing springs, and their availability to the cattle of our fields, the fertility of our soil, our climatic conditions, and the untiring efforts on the part of our experimental stations, and those who represent the Department of Agriculture, to instruct the dairy farmer as to the restoration of lost fertility, and to reduce the cost of the production of a pound of milk, combined, make our advantages at once apparent.

Dairying has been one of our most important industries for many years. We have had the advantage of the best markets the world possesses all these years, and why should not we expect the Empire State to retain her supremacy, in the quantity of milk per cow and the quality of her dairy products. As the average amount of milk per cow, delivered to our butter and cheese factories, according to the last census taken when the number of cows and the amount of milk they gave for the whole season were given, was but a little more than three thousand pounds, it can hardly be expected that we can stand at the head unless that amount can be largely increased. We know, since that report was issued, that dairies in our State, where all the information that has been spread broadcast by our experimental station bulletins and Farmers' Institute lecturers have been taken advantage of, that an average of 6,000 pounds of milk, per cow, containing 4 per cent. of milk fat, has been made. This has been accomplished by the best of care, and the most nutritious food given the herd that the farm can produce. This is encouraging, because if one dairyman can so care for his herd and feed them to give him such results, others can. I find the quantity of milk begins to grow rapidly less as soon as the weather changes from warm nights to cold and wet, fall weather. I saw a dairyman, during the past month of October, who was feeding corn stalks with all the ears taken off while the silo was allowed to remain undisturbed, to be fed later in the season, when the cows were giving no milk at all. The present price of cheese paid by exporters is 10 cents. If the dairyman cannot make a profit manufacturing cheese when he can sell it for that price, he better turn the business over to some one who can. There has never been a time when milk could be produced for less money than during the season of 1896. It is true the hay crop has been short, but dairying cannot be made profitable if the farmer depends on that crop alone to produce milk, no matter how favorable the seasons are for the growth of grass. The silo must come into general use if we expect to produce our milk for the least possible cost. Every one knows, and no one knows it better than the dairy farmer, that the time is comparatively short that a cow can get all the grass she needs to keep up her flow of milk. If an average of 6,000 pounds of milk per cow is going to be made, it requires food of the right kind and an abundance of it to accomplish it.

I saw a herd of cows in Orange county, September 3, 1896, feeding in a field that to all appearances was furnishing an abundance to satisfy them, yet when they came to the barn, a ration of green, well-matured corn, cut with an ensilage cutter was placed before them with a liberal allowance of wheat middlings mixed with the corn. I asked the proprietor of the farm if it was necessary to give them such a liberal ration after taking them from the field where there was such a heavy growth of grass. He replied that the grass had grown rapidly and he could not keep up the flow of milk and the condition of the cow on such grass alone. He showed me one cow that made 412 pounds of butter last year. This large amount of butter is not to be credited to the cow alone, but to the manner in which she was fed and cared for. It follows, as a rule, where herds are carefully fed and protected from the storms in early fall, the milk is of a better quality than those herds that are allowed to take the weather as it comes and be satisfied with what they can get to eat in the fields. There is a wide difference in the quality of milk from different herds, as shown by repeated tests made by the Babcock method, and I am inclined to think that the cows are not always to blame. There are many herds of cows in the State of New York that have never had an opportunity to show their good qualities. The poor average of 125 pounds of butter and 300 pounds of cheese per cow reflects more upon the lack of good management on the part of the owner than it does on the breed of the cow.

When the hot, dry weather, accompanied by swarms of flies, put in an appearance, the flow of milk always begins to fall off. Then is the time to see to it that they have an abundance of food so they will not have to fight flies and labor constantly to get food enough to sustain life. The difference in quality of milk will not be so great if the herd is fed so as to allow each cow to give her limit in milk fat. She may under favorable conditions give milk containing 4 per cent. fat, but she will not reach that point unless she has food enough that is nutritious and palatable to satisfy her needs and keep up her flesh. If she will not respond to the milk pail and the Babcock test she is not an economical machine to convert food into a finished product and should at once be turned over to the butcher. I will give some figures that I made by actual test in eight herds July 15, 1896, owned by one man, to show the difference in the quality of milk, its value for butter-making, amount of milk required to make a pound of butter.

No.	Cows.	Pounds milk per day	Per cent fat.	Pounds milk required to make one pound of butter.	Value of 100 pounds milk.
No. 1	14	132	4.60	19.42	.7725
No. 2	17	263	3.30	27.10	.5335
No. 3	31	459	3.90	22.93	.6540
No. 4	35	609	3.90	22.93	.6540
No. 5	18	345	3.80	23.53	.6375
No. 6	31	224	3.80	23.53	.6375
No. 7	25	199	3.60	24.81	.6045
No. 8	25	208	3.70	24.18	.6210

Twelve per cent. is added to the milk fat for moisture retained in the butter and the price is 15 cents per pound net to patrons. These figures show the difference in value of 100 pounds of normal milk, and it is fair to suppose that the above herds represent a fair average of the herds of our State. These cows were feeding on the pastures, with no extra food given. They were in fair condition but not in a condition to do their best either in quality or quantity.

To show the variations of the per cent. of fat in milk, I will give a table showing pounds of fat in 100 pounds of milk from May to October, 1895, both months included, taken from Bulletin No. 105, of the Geneva Experiment Station.

May	3.58 pounds.
June	3.59 pounds.
July	3.71 pounds.
August	4.04 pounds.
September	3.97 pounds.
October	4.20 pounds.

Averaging the amount of fat contained in the milk of all the different herds, we see that the fat in 100 pounds of milk was about the same in May and June; that the amount increased during July and August; fell slightly in September, and then increased in October.

Table showing pounds of casein in 100 pounds of milk:

May	2.40 pounds.
June	2.33 pounds.
July	2.20 pounds.
August	2.26 pounds.
September	2.47 pounds.
October	2.69 pounds.

Taking a general average of all the results, we see that the amount of casein contained in 100 pounds of milk was less in June than in May and still less in July, after which there was a more or less rapid increase from month to month."

The above tables show a result of the analysis made of the milk of each of fifty separate herds, during the entire season of 1895. These herds are located in Oneida county, and are owned by the patrons of G. Merry & Son, Verona, N. Y.

Bulletin No. 105 gives the effects of drouth upon milk production and provisions against its effects. It is a very instructive bulletin and should be read by every dairy farmer in our State. No doubt the results would have been very different had these herds been provided with plenty of nutritious food during the hot, dry months, as the bulletin suggests.

The next thing of importance to take into consideration, is the condition of the milk as it is delivered to our butter and cheese factories. It makes little difference whether the herd has been well fed or not, or whether the average amount of milk per cow is large or small, if the milking and the care of the milk after milking is so badly neglected that the putrifactive ferment has developed to such an extent that renders the milk almost unfit for use. The condition of milk in this respect has been very much improved in the past few years, yet there are too many cases where a great loss in both quantity and quality of product is suffered by patrons of cheese and butter factories as the result of a lack of cleanliness and care of milk. The subject of dairy bacteriology is one that ought and must be studied by every patron, cheese and butter-maker, before we can ever get to the bottom of the vexing question of tainted milk. The causes are so numerous that this subject must be thoroughly understood before dairymen will know why it is so very necessary to use all possible precautions by thoroughly scalding their dairy utensils, and by doing everything along the line of cleanliness to prevent the development of the enemy germ. While bacteria may be regarded, as far as milk itself is concerned, as undesirable, yet we must remember that the manufacture of dairy products, such as butter and cheese, are dependent on their action; so that the subject is doubly interesting to all engaged in dairying, not merely on account of the harm they do in promoting undesirable changes in milk, but also for the indispensable role they perform in the manufacture of butter and cheese. Therefore we should try to know as much about the nature of these minute organisms and about the conditions which influence their development, as possible, so as to enable us to take precautions either in checking or killing them, or in regulating and fostering their development when required.

The success of the dairy industry depends on properly controlling certain fermentative processes, such as that potent cream-souring for butter-making, and that active, in starting and developing certain ripening processes in cheese-making. We want, therefore, as much information as to how we can best foster these kinds of fermentation as can possibly be obtained. If the information we already possess regarding these minute workers in the dairy is meager, we must recollect that it is always being added to, and that its value is great." It has long been known by all good cheese-makers, that until the milk becomes slightly sour it was not in the best condition to begin the process of cheese-making. Just why this was so few could tell, but experience taught us the fact. But we find by closely studying the question of bacteria action, that the development of bacteria that produce lactic acid, is the principal agent to expel the moisture from the curd, and also to prevent the development of other and undesirable bacteria. The cheese-maker strives to make conditions favorable for the development of the desirable type of bacteria, and it is by their development from the time the starter is added (if the condition of the milk is such that a starter is required) until the curing process is completed that a fine cheese is secured.

I think we have urged the use of the aerator without cooling the milk only as it becomes cool by airing to the detriment of the milk. If everything around the dairy is in a perfect condition, such as pure water for cows to drink, carefully treating them, and milk utensils being perfectly clean, the aerator will, in ordinary summer weather, do the work perfectly without the addition of extra cooling. But in most cases milk should be cooled to 75 degrees Fahrenheit after being thoroughly aired. This prevents the rapid development of bacteria and insures the milk to be in better condition when delivered to the factory than to depend on the aerator alone. I have seen less tainted milk the past season than ever before, which is very encouraging, for the quality of the product depends largely on the condition of the milk. An ordinary cheesemaker can make fine cheese from clean, properly ripened milk, but an expert cannot make a fancy cheese from milk that has the undesirable type of bacteria fully developed. It must be remembered that cheese instructors are seldom ever called to a butter or cheese factory, unless there is trouble with the milk. We find in many cases milk is being received into cheese and butter factories that it is impossible for any one to produce a fancy article from. We have spent years to educate ourselves to overcome the development of the many types of undesirable bacteria such as produce gassy milk, sweet curdling of milk, bitter fermentations, ropy milk, slimy milk, soapy milk, and many other kinds of milk that are not desirable for butter or cheese-making. Had the same effort been spent to prevent the development of these germs, it would prove that an "ounce of prevention is worth a pound of cure" and save dollars to the dairyman in both quantity as well as quality of product. The first step to prevent the development of these enemies in the dairy is to use plenty of boiling water or dry steam in the milk utensils, so that no food for their growth is left in the form of partially decomposed animal matter. It is the putrefactive germ that gives us the most trouble, and they are the first to develop in an unclean milk utensil, particularly in warm weather. From the moment milk leaves the cow's udder it is taken possession of by a class of bacteria which are known as lactic bacteria, of many different kinds. These bacteria produce lactic acid in milk. This they do by decomposing the milk sugar, which is present to the extent of from 4 1-2 to 5 per cent., and which is a very easily decomposable substance. While the lactic bacteria feed on the milk sugar which is so easily decomposed, and produce lactic acid in milk, the putrefactive bacteria feed on the albuminoids in milk which gives a partially decomposed condition of another constituent which gives us so much trouble, particularly in cheese-making. These like all other bacteria are very much influenced in the rate of their development by temperature. For this reason milk should be cooled by airing immediately after it is drawn, to reduce the temperature to at least 70 degrees, and if airing will not cool it to that point, use other means. It is believed by many that electricity in the air has the effect of souring milk. "There can be no doubt that during thunder storms milk or cream sours more rapidly than under ordinary conditions, but this cannot be traced to the effect of electricity. In fact, experiments have shown that electricity, instead of hastening the souring of milk actually retards it. The temperature of the air being generally increased before thunder, promotes a more active development of bacteria in milk. That it is not due to electricity is proved by the fact that sterilized milk will not sour no matter how violent the thunder storm is." To secure the best results in butter and cheese-making, dairymen must be more careful about the condition of their milk cans; see to it that no rust holes are breaking through into an outer band of the can, forming a receptacle for milk and whey, where scalding water can never reach, constantly oozing out into the milk during the night, contaminating it with the most dangerous germs. By the strictest cleanliness in the dairy, contamination with bacteria is avoided to a large extent, for the only dangerous constituents of dirt are these minute living organisms. Dead dust is harmless. Much has been laid to the food the cow eats, the nature of the soil, to the health of the animal, and many other things to explain a reason for tainted milk, when the whole trouble can be traced to one cause, viz.: Filth. Improved dairy practice has rendered such faults of extremely rare occurrence. In condenseries and milk stations, where milk is shipped to our large cities for consumption, the cans are washed and scalded at the factory and given out to the patron the following morning in a perfect condition. In such factories tainted and sour milk is unknown. It is only in small dairies, who patronize cheese and butter factories, where extremely primitive methods too often obtain, that such negligence occurs Close competition among cheese and butter-makers has a tendency to prevent the best of care being taken of milk, as the patron feels rather independent. He can draw either way, and if he is inclined to be negligent about the care of milk utensils there is no fault found at the factory, fearing he will go to the neighboring factory. This is quite an obstacle in the way of any great improvement along this line. It also keeps the Babcock test from being adopted in many butter and cheese factories as a basis of paying for milk. The patron who would leave the factory because his milk was not worth as much per hundred pounds as under the present system, seems to me to furnish the best of reasons for rejecting it. So far as the care of milk is concerned, enough has already been said on the subject to instruct all except those who do not care to be instructed along this line.

The quality of cheese in the fifth division has been very much improved in the past few years. All, or nearly all, of our cheesemakers, who make an export cheese, have adopted the late improved Chedder method and good results have followed. There is too much loss of milk fat, in many cases, that can be retained by a little extra care and improve the quality and increase the quantity of the cheese. I seldom fail to make more curd from the same amount of milk, by my methods, than the maker has been doing before my visit. One mistake is made by our cheesemakers, particularly in our warm summer months, *i. e.*, too much heat is employed in developing the curds. When the whey is drawn from the curd the temperature is not less than from 98 to 102 degrees Fahrenheit. As a rule, the milk is ripened to three spaces, Marschall test, and none too much time is given to properly expel moisture from the curd before the acid has developed sufficiently to draw off the whey. This is done so as to be sure to get a development of the lactic germ ahead of, and to retard the action of any and all of the germs which produce gas, slippery curds, bad odors, etc. After securing such a start, there is no necessity of keeping up the temperature of the curd to 98 degrees Fahrenheit, but, on the contrary, it should be reduced so that the development will go on slower than it did before the whey was drawn. The reason for drawing off the whey is to remove a large portion of the germs, and nearly all the food, as the milk sugar all goes off in the whey. All that remains is the small portion that is retained by assimilation. But if the curds are kept up to a temperature of 98 degrees, it makes a condition favorable for the growth of the lactic bacteria and the curd assimilates too much moisture, does it too rapidly, and produces a cheese on the mushy order, if not acidy. After the moisture has been expelled by heat, lactic acid and rennet, so the kernels have shrunken to their proper size, and the proper amount of acid development has taken place and the whey drawn, a circulation of pure air should be allowed to pass through the room until the temperature of the curd is reduced to 90 degrees at least. The development goes slower, the whey has more time to pass out by pressure of the piled curd and there will be no free moisture, but a proper amount perfectly assimilated, so when the curd is cut through the milk there will be no whey drawn from it. This and a few other points in regard to preparing a starter that is pure and clean seems to be the only part of the Chedder method that is not fully carried out. In most factories a starter is used to assure the growth of the lactic bacteria in advance of all other types that produce unsatisfactory results, but by the manner in which the starter is usually prepared, millions of the undesirable type are often added to the milk in the vat, thus increasing the trouble they are trying to prevent. For this reason I advise the use of a pure culture starter where we always secure a perfectly clean, delicate-flavored sour milk.

There seems to be less improvement in curing-rooms among our cheese factories than in the utensils used in making cheese. A cheese made from fine milk and by ever so skillful a maker cannot be fancy, unless it is cured in a proper temperature. From 65 to 75 degrees Fahrenheit are the two extremes for a proper development of the cheese-curing bacteria. If below the former, the curing process goes on very slowly, and if above the latter, it goes on too rapidly for good results. After the curing process is once started in a cheese, and it has been kept for ten to fifteen days between the temperatures given above, it can then be placed in a room at a temperature of 60 degrees Fahrenheit with good results. The heat should never be so high as to start the fat, as it injures both texture and flavor to lose any of the milk fat in the cheese. A room should be ceiled with sound lumber, over paper, to keep out the winds and cold air, and at the same time retain the artificial heat when necessary to keep up the required temperature. I am inclined to think that many of our curing-rooms that have been carefully finished so as to be kept at a uniform temperature, is deficient in ventilation. The room where cheese are kept should have pure air and the moisture should be normal. Too much moisture in a curing-room will cause the cheese to mould easily, and a too dry atmosphere cracks the cheese under the bandages as well as on the surface. A perfect cheese must be cured in a proper, uniform temperature, with moisture enough in the room and not too much. A small hygrometer will indicate the amount of moisture as well as a thermometer will indicate the temperature, and the expense is but a trifle.

The individual factories, both butter and cheese, the work of cheese instruction and milk inspection, giving dates and counties in which the work was done, has already been reported, in my weekly reports.

Respectfully submitted,

W. W. HALL.

REPORT OF E. A. AYERS.

Mr. S. BROWN RICHARDSON, *Assistant Commissioner of Agriculture:*

Sir.— I have the honor to submit to you this, my annual report as cheese instructor in the fifth division for the year ending September 30, 1896.

The principal part of the work performed by me during the above period has been in the counties of Jefferson and Lewis, with occasional trips to adjoining counties, when requested to do so by the Commissioner, mention of which will be made in this report later on.

October 1, 1895, at the request of Hon. John P. Douglas, I visited this "Home" Cheese Factory in company with Inspector Charles S. Kellogg. We inspected the milk and the methods used at the factory of making the same into cheese. I found the milk delivered in good condition, and the cheese were of most excellent quality, the style being forty pounds for home trade. A sample of milk was taken at that time by Inspector Kellogg, and delivered to J. C. Willson, chemist, Canton. October 3d, by request of the manager of the Cantor Creamery, located near old DeKalb, St. Lawrence county, I visited it accompanied by Inspector Charles S. Kellogg. I made an inspection of the milk as to its condition; also made a test as to the per cent. of fats, by Babcock test, which I found to be above standard. The cream taken from the milk delivered at this creamery is drawn to the old DeKalb Combination Factory, about four miles distant, and there manufactured into butter. From Cantor Creamery I went to the old DeKalb Combination Butter and Cheese Factory, owned by Gardner, Murphy & Co., Boston, and operated under the superintendence of Mr. and Mrs. Keys. I found the factory to be a large, new plant in first-class condition, equipped with the latest and most improved machinery for manufacturing butter and cheese; also a first-class cold storage annex for holding the product. I inspected the general character of the milk; also made a test with the Babcock test; also made a vat of cheese. I found the cheese on the shelves in this factory to be a first-class article for the Boston or other home trade markets, of which this factory makes a specialty. I returned to Jefferson county and, by request, October 8th visited the Standering Cheese Factory, Deer River, Lewis county. On the 9th I made an inspection of the milk delivered at the Standering factory and took a sample of milk from the dairy of Charles Kitts and delivered it to Dr. J. C. Willson, chemist, Canton, for analysis, who certified it to be below standard. October 10th I was ordered, by Assistant Commissioner Moore, to Clinton county, N. Y. I inspected milk at the English River Creamery; took a sample of milk from Mrs. M. Vosburg's dairy to Dr. J, C. Willson, chemist, Canton, for analysis, who certified it to be below standard. The case has since been prosecuted and fine collected, notice of which will appear later. The last week of the month I was in southern Jefferson county inspecting the product of the different factories, where I had previously given instructions as to the handling of the milk, and found the cheese fine.

The first week in November I was in northern Jefferson county inspecting cheese and instructing cheese-makers. I visited Flath Factory, Philadelphia. Cheese good; factory in fine condition. Evans' Mills, cheese make, fine; curing not perfect, on account of imperfections in curing-room, there being a lack of proper ventilation. The factory needs extensive repairing in the making-room as well. Advised the proprietor to make the necessary improvements to place the factory in a good sanitary condition. The middle of the month I assisted Inspector Charles S. Kellogg in inspecting milk and taking samples of milk from milk dealers on the streets in the city of Watertown. We took thirty-five samples of milk to Dr. Theodore Deecke, chemist, Utica, N. Y., for bacteriological examination and analysis. Last week of month was engaged in inspecting cheese at factories where I had given instructions before, viz.: At the Brownville, Eames, Tylerville, Rodman and Eureka factories. I found the makes of the above-named factories much improved from former years and fully up to the standard of northern New York cheese.

The first week of December I was called to Lowville, N. Y., as witness in the case of the *People v. James Harvey, Sr.* Case settled by the payment of fine of $100. By order of the Department I attended annual meeting of the State Dairymen's Association at Syracuse, the second week of December. About December 17th, by request, I visited the West Rodman Factory for the purpose of inspecting fall make of cheese. I found a very uneven make; also a gross lack of attention to the curing of the cheese. The maker was a fresh importation from Canada and would not accept instructions offered by me earlier in the season. As a result the patrons were compelled to accept a cut price for the product. The last of the month I visited the East Rodman, Gould and Bacon and Pamelia Centre Factories' fall make of cheese and found the cheese fully up to standard, with the exception of the Gould and Bacon, which lacked body and was badly off flavor. The maker, during the season at all times, claimed that his cheese were all right and no help needed.

First week in January was called to Carthage to inspect milk at the Graham Factory. On my arrival found the factory had closed for the season. About the 14th of January went to Adams with Inspector C. S. Kellogg; inspected the milk delivered at the Perkins & Thomas Factory; found all the milk up to standard. They were making a fair article of skim cheese. Their factory is not in first-class condition for winter operation. About the last week in January, by request, I visited the Mathers' Factory, and the Belleville, Woodville and Henderson Factories. The Mathers' were making a superior grade of butter; also the Belleville, which was being shipped daily to New York. Then went to Henderson to inspect cheese in factory, which was found to be of medium quality. The cheese at the Woodville Factory were partly skimmed, but of a good grade for skimmed goods.

First week in February, by request, I went to Redwood and inspected the cheese of the Kirkland Factory in store at that place. Found the cheese of a superior quality and in excellent condition. About the 17th, by request, I inspected the cheese of the Eames and Tylerville Factories and found them to be very fine. About the 29th, by request, went to Adams and inspected the cheese of Williams and Smithville Factories. Found quality of cheese good, but they had been neglected and were very mouldy. Williams' were on the pasty order, caused by carrying too much moisture. The 24th, by request, went to Watertown to inspect the cheese of North Rodman Factory when delivered. They were slightly skimmed but of good quality and well made. By request went to Adams to inspect the cheese in store of the Union Factory of Pinckney, Lewis county, and Bridge Factory of Adams. Found cheese to be very fine and fancy.

First week in March inspected milk on streets in city of Watertown with Inspector C. S. Kellogg. Found the milk above standard and fine quality. March 9th went to Mannsville and Stone's Factory No. 1. Milk was up to standard and good quality; was being made into unsalted butter and some cream was being shipped daily to New York with good results. Same week went to Ellisburg and inspected the milk at the King Factory and made a vat of cheese. Milk up to standard. The first make of the season at this factory. The last of the month made an inspection of milk, with Inspector Kellogg, in Waterown. Found milk above standard.

The second week in April was ordered to Plattsburg to attend court as witness in case of *People* v. *Vosburg.* Case tried. Defendant found guilty and fined $100. About April 14th went to Mannsville and inspected milk. Found milk above standard. Quality good at Stone's Factory. Same week went to Ellisburg, to King Factory. Instructed in cheese-making. About April 20th went to Walrath's Factory, Evans' Mills, to instruct maker in making spring milk into cheese. Same week went to Flath's Factory, at Philadelphia, and instructed maker in handling spring milk with good results.

May 1st week went to I. C. Cooper's Factory, at Theresa, to instruct maker. Found cheese very good and factory in good condition, except drainage. I advised change in drainage. May 6th went to Lowville to confer with Assistant Commissioner Moore. The 11th was called by maker to O. K. Factory, Great Bend. Found cheese of poor quality. Inspected the milk which was above standard. Made a vat of cheese and instructed the maker, who has had no trouble since in getting top price, with a good yield of cheese to one hundred pounds milk. May 14th to 18th assisted Inspector Charles S. Kellogg in making inspections of milk in city of Watertown with Babcock test. Found all offerings of milk on the streets to be above standard and in fine condition. May 21st to 22d went, by request of maker, to Farmers' Factory, Depauville. Inspected the product. Found the cheese well made. The factory I found to be in a very poor condition, needing many repairs both in building and equipment. May 27th to 28th went to Lowville to attend conference of the cheese instructors and inspectors of the Department.

First week in June I was called to Smithville to instruct maker and inspect the cheese. I found the cheese to be of medium quality; flavor, not perfect; body, weak. Made a vat and instructed the maker how to remedy the trouble, with good results. Same week went to Camp's Mills. Inspected the cheese and found them fine. The middle of the month was called to Clayton to look over the factories in that section of Jefferson county. Went to Grindstone Island Factory, made milk inspection and took sample from the dairy of Moses Hurst, Thurso, Jefferson county, N. Y., and delivered it to Dr. J. C. Willson, chemist, Canton, who certified it to be below standard. I also visited the Empire State, Line Road and Brownville factories same week. Found cheese to be good and factories in fair condition. June 18th and 19th went to Lowville, and, in company with Instructor Horace Rees, visited the following factories and inspected the cheese and found the product fine, viz.: High Mark, New Columbian, New Model, Copenhagen and Lanpher Factory; cheese at latter factory we found to be off flavor and mushy. Assisted Instructor Rees in making an inspection of milk and vat of cheese and instructing the maker, with satisfactory results for the remainder of the season. June 22d went to Adams Factory. Found cheese below standard, being off flavor. Made a vat of cheese and instructed maker, with satisfactory results. June 25th went to Depauville. Inspected cheese. Found some of them off flavor and lacking body. Made vat of cheese and instructed maker; results were good from that date on. June 30th went to Cascade Factory. Found cheese over-salted. Instructed the maker to use less salt, with good results.

During the month of July was kept busy in Jefferson county inspecting milk and cheese, and instructing cheese-makers in trying to make a product that would not contain a foreign and offensive flavor. First week of July visited the North Rodman Factory. Found some of milk lacked proper aeration. Instructed the patrons as to the proper care of it. The make of cheese was good. Same week went to Evans' Mills Factory. Found cheese not bad, but of a mushy character and carrying an excess of moisture, on account of lack of heat. I made two vats of cheese; instructed the maker. Result, cheese satisfactory balance of season. July 13th was called to Pillar Point Union Factory. Found the maker receiving tainted, gaseous and sour milk, with the result that cheese were below standard. I informed the patrons that their milk lacked proper care and aeration and directed them to secure aerators and instructed them as to the care of their milk. Made a vat of cheese and instructed the maker. The instructions given by me were followed and everything has been satisfactory since. Same week visited the Brownville Factory. Inspected the cheese. Found them to lack body. Flavor good. The maker was drawing his whey too soon. Instructed him in the matter. Subsequent results prove the correctness of my judgment, as the cheese are fully up to standard. July 16th, 17th and 18th went to Yost Factory. Inspected the cheese. Found them too stiff, chippy and seemed to lack fat. Maker informed me that he was setting his vats at 90 degrees or above with an indiscriminate amount of extract. He was heating up to 106 degrees and cheese was suffering from separation and loss of fat after curd went into hoop. I made two vats of cheese. I set the milk at lower temperature. Drew the whey with less acid than maker had been practicing, running heat to 98 degrees. Then hand-stirred to relieve curd of excess of moisture, at the same time giving the curd a thorough aeration before salting. Result, was the retention of maximum amount of fats in the cheese, as maker has since reported. July 22d to 25th made a recanvass of factories where I had previously given instructions to makers, viz.: Ontario, Eureka, Brownville and Pierrepont Manor and found cheese fine. The last week in July I reviewed my work in the following factories, viz.: Williams' No. 2, Waldo's, Tylerville, Watertown Valley and the Ed. Ball, and found them all following my methods of making, and cheese fine and yield good.

The first week in August I went to Utica to consult with Instructor George A. Smith. During August and September northern New York was visited by a severe drouth and hot weather, affecting the milk on account of poor pasturage and lack of good water, and seriously interfering with the cheese industry. August 4th to 10th I went to Mexico, Oswego county, and visited the Farmers', Holmes and Wilder Factories. At Farmers' Factory I found the factory in not first-class condition, the maker said he had had trouble but was confident he was past it, and did not need my instructions. From there I went to the Holmes Factory, inspected the cheese and found them fine. Then went to Wilder's Factory; found the milk being delivered in poor condition, gaseous and tainted. In consequence the cheese were weak and open and of poor flavor. Made a vat of cheese and instructed maker as to method of handling the milk, and instructed the patrons so that he might overcome the defects. He reported good results. August 11th was called to Clayton, to Empire State and Omar Factories. At Empire State the milk delivered was gaseous, lacked aeration, which affected the cheese. I instructed the patrons as to the care of their milk. Made a vat of cheese and instructed the maker in handling the milk, which was of very poor quality; had very good results. At Hill Spring Factory I inspected the milk and found it, with one or two exceptions, to be in good condition. Found cheese fine. August 15th to 18th I was requested by maker to visit the

Standering Factory, Deer River, Lewis county. I inspected the cheese; found them weak and open, caused by drawing the whey too sweet. Instructed him to give more acid before drawing whey. The result of the product was satisfactory the remainder of the season. August 19th to 24th went to Adams, Belleville and Bridge Factories. Inspected their cheese. Found them fine; need no instruction. August 25th inspected the Rodman and West Rodman Factories where I had before given instructions. Found cheese fine. Same week went to northern Jefferson county and inspected the cheese of the Still, Cooper and Brooklyn Factories, where I had previously instructed, and found their cheese fine.

September 1st, 2d and 4th was in attendance at the State Fair looking after the exhibits of dairy products of the fifth division, which were of a superior quality, scoring, under the judge's decision, the highest marks, notably cheese, in the entire exhibit. September 8th was called to Wilna Centre Factory to make an inspection of milk, with Inspector Charles S. Kellogg. Made a Babcock test; found milk above standard. September 14th to 16th went with Inspector Kellogg into southern Jefferson county to Davis No. 2, Salisbury No. 1, and Ellisburg factories. Inspected milk and cheese. Found it to be above standard. Same week went to Lowville, Lewis county, being selected to judge the cheese on exhibition at Lewis County Fair, and found the entire exhibit to be of a superior quality, and some were fancy. Latter part of September went to Theresa to inspect the product of the J. P. Douglas and Brooklyn Factories and found them good. Same week went to Mannsville and inspected the milk and cheese at Stone Factory and found both milk and cheese to be of fine quality.

In the interest of producers of food products, as well as consumers, I feel warranted in recommending a more vigorous inspection of vinegar in the hands of the retailers in this State, believing it to be in the line of integrity, good morals and good health, and along the line for which the Department of Agriculture was created.

Respectfully submitted,

E. A. AYERS,
Cheese Instructor.

LOWVILLE, N. Y., *December* 10, 1896.

MR. S. BROWN RICHARDSON, *Assistant Commissioner of Agriculture:*

Dear Sir.— I have the honor to submit the following as a report of the work performed by me as cheese instructor, during the year ending September 30, 1896.

On October 3, 1895, I was called to Antwerp, Jefferson county, by F. X. Baumert & Co., for the purpose of making an examination of the milk at their factory, and a test for the butter fats. This factory has 150 patrons and works up the milk on an average of about 40,000 pounds daily; makes several different kinds of fancy cheese, which is principally shipped to their New York house. On October 12th I was called to the Martinsburgh Factory to make a test of the milk with the Babcock test. They are pooling the milk there this season by the per cent. of fat. On October 14th I went, by request, to the Miller Factory, at Constableville, to examine the cheese, and to ascertain, if possible, why the flavor was not perfect. The flavor being off, or sweet, or fruity, may be helped, to a degree, by going to press at a lower temperature, and may be aggravated by going to press at a higher temperature. I am of the opinion, however, that until we know more about the action of both friendly and unfriendly germs or bacteria during the process of cheese-making, the positive remedy for sweet or fruity cheese will remain somewhat clouded. The Miller Factory has the milk from about 750 cows and runs about nine months in the year. The buildings are new and the apparatus is all first class; it is one of the finest equipped factories in the county of Lewis. Add to their present facilities a thorough system of ventilation and its appointments will be truly "up to date." On October 19th I went to the Silver Spring Factory. The sanitary conditions of this factory are poor; the buildings are old and the apparatus has been in use some time and not kept up as such machinery should be. The same criticism may be applied to the Rector Factory, which I visited October 24th. On October 26th I visited the Forks Factory to make a milk inspection; found the milk to be in good condition and above the standard. On October 28th I went, in company with M. T. Morgan, to Antwerp to inspect the F. X. Baumert Factory. From there we went to Franklin county and spent the week in Franklin and Clinton counties visiting creameries and cheese factories. We were called to A. D. Boomhower's Creamery at Plattsburgh. This factory runs the year round and makes up a large amount of milk; is first-class in all its appointments. From there we went to West Chazy to the creamery owned and managed by Mr. McCauley. He has one of the finest creameries in the county of Clinton. During the flush of milk he has about 25,000 pounds of milk per day. This factory runs the year round and the patrons are paid by the hundred for their milk.

On November 6th, at the request of F. X. Baumert & Co., I went to Evans' Mills to the Lambert-Waller Factory, owned by them, and made an inspection of the milk with the lactometer and the Babcock test. Found the milk to be a high per cent. of fat and in good condition. This factory makes Limburger and Munster cream cheese, and is managed with the same good judgment and improved methods that obtain in all of the factories managed by this firm.

December 2d I was detained at Lowville as a witness in the case of the *People* v. *Couscan*, Forestport, Oneida county, the same being for the adulteration of milk. On December 17th I commenced a series of experiments in the manufacture of Neufchatel and cream cheese, by way of Pasteurizing and sterilizing the milk, and continued my experiments along those lines during the balance of the month, and also the month of January. I was assisted the last week of December, in this work, by Instructor Morgan. This month and the month of January were spent by me in these experiments, with the result that I succeeded in producing ten different kinds of cheese, most of which are used in the markets of this country, and, I believe, could be manufactured to the advantage of our dairymen and to the relief of the over-production of the American cheddar product.

On February 20th I was called to Boonville to make an inspection of the milk being sold in that village. In company with Instructor Morgan I answered this call and spent two days in examining the milk. One of the causes for lack of confidence in milk sold in cold weather is that the milk being continually agitated, and the temperature continually lowered from the time it is drawn from the cow until delivered, and being then put in the coldest place in the house so that it will keep sweet as long as possible, the fat globules fail to rise, and people often find fault with the milkman, when the fault is found in a temperature too low for the proper separation of the fat.

On March 4th I was called to the Cloverdale Factory, near Constableville, to make a milk inspection. Tested the milk with the Babcock test and found it to be of good quality. Mr. Blum, the maker, was making Limburger and Munster cream cheese. On March 23d I went to David Karlan's Factory at Boonville, Oneida county; made a milk inspection and gave instructions as to the method of manufacturing Neufchatel cheese. I am informed that good results followed these instructions, and that the same kind of cheese will be manufactured during the coming winter.

On April 15th I was called to the Martinsburg Factory to test composite samples of milk. This factory was at that time making butter and receiving milk upon the per cent. of fats shown by the Babcock test. The patrons appeared to be well pleased with this method of regulating values, and I believe that they were correct in their judgment. The Moose Creek Factory, in Lewis county, is a type of many others. In the spring of the year, when cows are fresh in milk and the milk lacks body, they carry the acid too far and expel the moisture to such an extent that the cheese when cured have a dry, chippy, acidy appearance and do not command the market price. I visited, during the month of May, some eight or ten factories where these conditions prevailed, and gave instructions calculated to overcome this trouble. In most instances I made the cheese with the assistance of the local maker and pointed out the latest methods of avoiding this trouble. The results in most cases were very gratifying, and the quality of the cheese was greatly improved.

It has been the custom among the cheese instructors of this Department to meet once or twice each year, and by a comparison of notes and a relation of experiences, to so distribute that experience that each instructor would be benefited. I acknowledge my indebtedness to the instruction I have received at these meetings for many good points in practical cheese-making. Such conferences were held at the Sulphur Spring and Martinsburgh Factories, in this county, on May 28th and 29th of the present year, with the usual exchange of practical ideas.

The calls for help during the months of June and July were many and I was unable to give relief to all; my time, however, was all spent in giving instructions, and in paying special attention to the sanitary condition of the different factories. Good air, good drainage, clean utensils, careful attention to the details of cheese-making, and proper care of the milk by those who patronize our cheese and butter factories, are most essential to the manufacture of fancy cheese; during the hot, sultry months no one can make fine cheese who neglects these precautions.

During the month of August, in addition to the regular departmental work, I spent some time persuading cheese factories in Lewis county to be represented at the State Fair. Twenty-eight samples of cheese were entered for premium at the fair. The following table shows the score on home trade and export cheese made in the county of Lewis, and exhibited at the New York State Agricultural Fair held in the city of Syracuse August 31 to September 5, 1896:

FOR HOME TRADE.

	Flavor.	Texture.	Color.	Finish.	Total.
A. & H. E. Cook	50	25	15	10	100
A. & H. E. Cook	48	25	15	9	97
Jay H. Searl	50	23	15	10	98
L. M. Stowell	50	25	15	10	100
F. C. Gowdy	47	25	15	9	96
W. Fitch	49	25	15	9	98
W. C. Spencer	46	24	15	9	94
John Tarpy	46	22	14	8	90
Joseph A. Merz	45	25	15	9	94
W. E. Gaynor	48	23	15	10	96
J. H. Smith	49	24	14	9	96
E. H. Evans	50	25	15	8	98
C. M. Henry	49	25	15	9	98

Note.—Possible points — Flavor, 50; texture, 25; color, 15; finish, 10; total, 100.

FOR EXPORT.

	Flavor.	Texture.	Color.	Finish.	Total.
G. S. Alger	44	30	15	8	97
Jay H. Searl	45	30	15	9	99
L. M. Stowell	45	28	14	10	97
B. M. Graves	43	30	14	9	96
John H. Fox	44	30	13	10	97
Henry Peters	45	30	15	8	98
E. H. Evans	45	28	15	9	97
James E. McGrath	44	28	15	9	96
George Plummer	43	27	15	8	93
Michael Herley	43	27	15	8	93
Samuel Tschume	44	29	15	10	98
H. J. Roberts	45	29	15	9	98
Rudolph Regetz	44	28	14	9	95

Note.—Possible points—Favor, 45; texture, 30; color, 15; finish, 10; total, 100.

The creameries or butter factories of the fifth division of the Department of Agriculture are, as a rule, better equipped than are the cheese factories. In fact there seems to be more interest taken in butter-making by our dairymen than in cheese-making. This, no doubt, is due to the fact that in every, or nearly every dairyman's household, more or less butter is made either in spring or fall, before or after the cheese factories are operated for the season, if not during the entire dairy year. While there are no cheese worth mentioning made outside of our cheese factories, the late improved cream separators now in use are so constructed that any careful person can operate them and secure perfect work. They skim the milk so closely that the amount of fat left in the separated milk is only from 1-20 to 1-10 of 1 per cent., an amount almost too insignificant to mention. The milk is separated from the cream so quickly after delivery, that no opportunity is given to develop any undesirable flavors, before the mass of cream is ready for the ripening vat.

Vats are made with a view to placing the cream at the most favorable temperature for best results for ripening and holding it there until it is ready to churn. The late and improved butter-workers, like the "Fargo" and "National," are so constructed that the anxiety of over-working the butter has been practically removed. A certain number of times for the butter to pass through the fluted rollers is sufficient and all careful operators soon learn how to successfully manipulate it. Fans are attached to the line shafting and as the churn, separator and worker are in motion, a cool breeze is kept up which adds to make a favorable condition for the work they are doing. Nearly all butter factories are furnished with a cold room for a temporary storage during the short time it is held before marketing, which, in most cases, is every week. In the fifth division there are several freezers where large quantities of butter can be stored at a small cost, in case the patrons think best to hold for a short time during the hot months, when a large quantity is being made. With all these modern improvements, together with the sharp competition from the great Elgin district, west, the butter-makers of the fifth division have made rapid strides in the quality of their product. The same annoyances are met in butter-making as in cheese-making along the line of poorly cared-for milk, except that in butter-making we deal with but one constituent of milk, while in cheese-making we deal with two. The ripening process in cream overcomes any taint that may have developed in milk much more readily than does the ripening process in milk in cheese-making, as there is less food for developing the putractive germ in cream for butter-making, than in milk for cheese-making. The ripening of cream is one of the principal features of butter-making. It is of the utmost importance that careful attention be paid to the ripening of cream as a means of bringing out the highest possible flavor that can be obtained from the milk from which the butter is made. W. R. Boynton & Co., of Boston, Mass., whose creamery, situated in Madrid, St. Lawrence county, is a model in the way of modern improvements in butter-making, informs me that their success has come largely from the study of cream ripening. The cream should be made as rich in fat as can be done and secure a clean separation. If the separator can make cream containing 35 to 40 per cent. fat and do good work, the churning can be done at a lower temperature and produce a finer grade of butter than at a higher temperature, besides making a more perfect separation and a less loss of fat in the buttermilk. Cream can be more perfectly ripened by allowing it forty-eight hours to complete its work, than to try to arrive at the proper degree of ripeness in twenty-four hours. Some of the finest flavored butter I have seen the past season, and I have inspected a very large quantity of it, was made from cream that was ripened at 54 degrees Fahrenheit for forty-eight hours and had a lactic acid development of 65-100 of 1 per cent. It was very frequently agitated to keep the fat and the other constituents very thoroughly mixed, so as to carry along a uniform ripening process from the top to the bottom of the cream vat. A sample taken from the bottom of the vat, and one from the top, when titurated, would show the same development of acid; but, if left undisturbed, a sample taken from the bottom of the vat would show by tituration a marked difference in the per cent. of lactic acid, as compared with a sample taken from the top of the vat. This, no doubt, is due to the fact that when cream is not agitated very frequently, the fatty matter rises to the top, and contains less milk and sugar than at the bottom, and the temperature being the same the development goes on slower. When such conditions exist, and when the cream is ready for the churn, it is not in a uniform condition. From the fact that the cream, less rich in fat, from the bottom of the vat, is overripe, and the cream from the surface of the vat, much richer in fat, is less ripe, it does not follow that after being mixed in the churn that all fat globules will break uniformly and get a perfect churning, as they would had the cream been more frequently agitated, and a more uniform ripening secured. The process of tituration is simple and can be operated by any careful, painstaking butter-maker who is anxious to keep pace with the improvements of the age. The apparatus is not expensive and can be purchased from any first-class firm who deals in dairy supplies. A graduated tube is required to contain the alkaline solution, with a closely-fitted stop cock that allows the solution to flow out in drops if the operator desires. Any cup can be used to hold the cream. The tube is graduated into cubic centimeters. Measure out twenty-five centimeters of cream and place in the cream cup, then allow the alkaline solution to run out into the cream, keeping agitated with a sprattle furnished for that purpose, until it takes a pink color. It does this as soon as the acid in the cream is neutralized. The per cent. of acid present is found by applying a simple formula. There are different methods of testing, always furnished with directions for making the test. Care should be taken in dissolving the alkaline tablet. Except a flocculent residue, or settling which will not dissolve, the tablets must all disappear in the solution before it is ready for use. The strength of the tablet solution will not change perceptibly by standing eight or ten hours, but it loses strength by standing a day or more. The object of cream tituration is to know just how ripe it is, and to have the same per cent. of acidity in it each day; the same as you would like to know what temperature you have when ready to churn.

There is one more subject I wish to call your attention to in connection with butter-making; while it may not be of as much importance as some people suppose, yet it is in a line with some of the other misrepresentations we have to come in contact with in the making and selling of dairy products. It is in using a pure vegetable color, free from any and all mineral oils or coal tar colors, in butter-making.

I want to call your attention to a clipping from the "American Creamery and New York Butter Trade," vol. 9, No. 23; dated July 4, 1896; office No. 78 Park place, New York. It is an advertisement for butter color and reads as follows:

"PURE BUTTER COLOR."

"Quite some agitation is going on in the dairy press about aniline and mineral oils being used in some makes of butter color. To be sure and get the pure article, made only from the best ingredients, creamery men and butter-makers should buy that made by .... This company makes only pure and perfect coloring and guarantees its genuineness."

I am informed that by analysis this brand of color does contain aniline and mineral oils, and it is the very brand that the advertisement refers to when it speaks of coal tar colors. The brand is not made in this State, but largely used here. If, as is conceded by chemists, not enough aniline is used to be injurious to health, why does the above firm dodge the issue and take so much pains to advertise a purely vegetable color, when it is so known that this same brand *is not* a purely vegetable color?

In another advertisement in the "Dairy World," vol. 16, No. 7, dated Chicago, July, 1896, this same firm says:

"CREAMERY MEN BEWARE."

"When ordering your fall supply of butter color be sure you get a pure and wholesome color, one that contains neither aniline nor mineral oils."

The facts are, as in adulterated rennet extract, the aniline is used to cheapen the cost of butter color, and as aniline is poisonous and very detrimental to health, to a larger degree than "Preservaline," it is quite fitting that there should be an investigation, I do not believe that the above firm could compete with other honest firms, who make a purely vegetable color without resorting to the use of some foreign substance to give a sharp color but cheaper than annatto seed. If there is no danger to health by eating butter colored with aniline, why is it necessary for any firm to take so much pains to advertise a butter color made from purely vegetable oils? Why not advertise a cheaper color made from coal tar colors and let dairymen have the benefit of it? It looks like deception to advertise color purely vegetable and have mineral oils and aniline found in it by analysis.

All of which is respectfully submitted.

H. A. REES,
Butter and Cheese Instructor.

REPORT OF CHARLES S. KELLOGG.

Mr. S. BROWN RICHARDSON, *Assistant Commissioner of Agriculture:*

Dear Sir.— I herewith submit my report as commissioner's agent for the year ending September 30, 1896:

The principal part of the work performed by me during the past year has been in the counties of Jefferson and Lewis, except when ordered to other sections of the State.

October 1, 1895, at the request of Hon. John P. Douglas, in company with Cheese Instructor E. A. Ayers, I visited the Douglas Home Cheese Factory, near Theresa, and made an inspection of milk delivered; tested with Babcock test. I took a sample of milk from the mess delivered by one Samuel Menary, Label No. 3334, to Dr. J. C. Willson, chemist, Canton, N.Y., for analysis. Chemist Willson's certificate of analysis proved the sample to be above State standard. The next week I went to St. Lawrence county and inspected milk at the Canton Creamery and old DeKalb Combination Butter and Cheese Factory, owned by Messrs. Gardner, Murphy & Co., Boston, and managed by Will G. Keyes and wife. I made a Babcock test at the Canton Creamery; also at the DeKalb Cheese Factory. Found the milk to be above standard in both instances, the fats being from 3.7 to 5 per cent. and in good condition. The old DeKalb Factory is a very fine plant, fully equipped with first-class machinery; also cold storage for the manufacturing, curing and holding its product, butter and cheese, which is made exclusively for the Boston market, and is handled by Messrs. Gardner, Murphy & Co., with satisfactory results to their patrons.

Early in October, 1895, the city of Watertown was visited by typhoid fever, which spread rapidly and assumed the proportions of an epidemic. The physicians, or a large number of them, ascribed the primary cause to the unwholesome condition of the milk sold on the streets of the city. The city board of health, by resolution, requested me to make a rigid inspection and investigation, as the local representative of the Department of Agriculture, holding that chapter 338, section 3, Laws of 1893, gave me jurisdiction in the premises. Immediately, in company with Cheese Instructor E. A. Ayers, I proceeded to make an inspection of the milk sold on the streets in the city of Watertown, and also investigated the manner in which the several herds and dairies, from which the milk was produced, were cared for. As a result forty (40) samples of milk were taken from the different milk wagons on the streets of the city and delivered to Dr. Theodore Deecke, Utica N. Y., for bacteriological examination, three of which he reported contained germs of typhoid baccilus, and several more were found to be impregnated with the bacteria of other diseases, arising from lack of proper care of the milk, and improper feeding and care of the animals from which the milk was drawn. Following the above said inspection, the city board of health, in conjunction with the local representative of the Department of Agriculture, have adopted a stringent set of rules under which the milk supply is vended in the city of Watertown, and also a systematic inspection by the Department, at nearly regular intervals, the result of which is, the consumers are supplied with clean and wholesome milk, and the consumption of milk has largely increased. There are a number of large factories located in Jefferson county that are engaged all the season, making cheese during the summer and butter from December to May; they are constantly embarrassed in their efforts to make clean flavored butter, by lack of care and proper aeration of milk, when first drawn from the cows, on the part of the patrons. Hence, I have felt compelled to make frequent visits to those factories, viz.: Mannsville, Belleville, Ellisburg, Salisbury's, Woodville and Fillmore Factories, and inspect the milk, trying to arouse a friendly spirit of emulation on the part of the patrons as to which of them could deliver their milk in the best condition to the factory. The result of which, I am informed by the makers, is that the condition of the milk, when delivered, has materially improved.

The first week of December I was called to Lowville, N. Y., to attend the term of Circuit Court, as a witness in the case of the *People* v. *James Harvey, Sr.*, Label No. 2202, it being a sample which I took August 30, 1894, at the Delemore Cheese Factory, near Carthage. Case settled by payment of fine of $100.

During the months of January, February and March, I inspected milk sold on the streets in the following villages, viz.: Adams, Sackett's Harbor, Cape Vincent and Clayton. The milk sold in the above-named villages was standard, but had not been properly cared for. I instructed the milk dealers in method of aeration and care of their utensils, and now hear no complaints from the consumers.

I have inspected the milk sold on the streets of Watertown by forty (40) different venders, once a month, as before stated.

The following is the record of Babcock test made the last of April, 1896:

MORNING AND NIGHT'S MILK MIXED.

No. 1, 3.6 per cent. fat; No. 2, 3.8 per cent. fat; No. 3, 3.5 per cent. fat; No. 4, 4 per cent. fat; No. 5, 4.2 per cent. fat; No. 6, 3.6 per cent. fat; No. 7, 3.8 per cent. fat; No. 8, 4 per cent. fat; No. 9, 4 per cent. fat; No. 10, 4.2 per cent. fat; No. 11, 3.6 per cent. fat; No. 12, 3.7 per cent. fat; No. 13, 4 per cent. fat; No. 14, 4 per cent. fat; No. 15, 4.6 per cent. fat; No. 16, 4 per cent. fat; No. 17, 4 per cent. fat; No. 18, 3.8 per cent. fat; No. 19, 3.7 per cent. fat; No. 20, 4 per cent. fat; No. 21, 4 per cent. fat; No. 22, 3.8 per cent. fat; No. 23, 3.7 per cent. fat; No. 24, 4 per cent. fat; No. 25, 4 per cent. fat; No. 26, 3.8 per cent. fat; No. 27, 3.6 per cent. fat; No. 28, 3.6 per cent. fat; No. 29, 3.8 per cent. fat; No. 30, 3.6 per cent. fat; No. 31, 4 per cent. fat; No. 32, 4 per cent. fat; No. 33, 4.2 per cent. fat; No. 34, 3.7 per cent. fat; No. 35, 3.6 per cent. fat; No. 36, 4 per cent. fat; No. 37, 4 per cent. fat; No. 38, 4.4 per cent. fat; No. 39, 4 per cent. fat; No. 40, 4.2 per cent. fat.

Commencing in May, at the request of the cheese-makers, I undertook to make an inspection of the milk delivered at one hundred and upwards of the different factories in Jefferson county, making Babcock tests whenever requested, which inspection consumed all the time during May, June and July.

Record of Babcock test made at Smithville Factory, first week in May, 1896:

No. 1, 3.2 per cent. fat; No. 2, 3.3 per cent. fat; No. 3, 3.6 per cent. fat; No. 4, 3.4 per cent. fat; No. 5, 3.6 per cent. fat; No. 6, 4 per cent. fat; No. 7, 3.6 per cent. fat; No. 8, 3.2 per cent. fat; No. 9, 3 per cent. fat; No. 10, 3.4 per cent. fat; No. 11, 3.6 per cent. fat; No. 12, 3.3 per cent. fat; No. 13, 3.7 per cent. fat; No. 14, 3.3 per cent. fat; No. 15, 4 per cent. fat; No. 16, 3.4 per cent. fat; No. 17, 3 per cent. fat; No. 18, 3.6 per cent. fat; No. 19, 3.4 per cent. fat; No. 20, 3.4 per cent. fat; No. 21, 3.5 per cent. fat; No. 22, 3.6 per cent. fat; No. 23, 4 per cent. fat; No. 24, 3.5 per cent. fat; No. 25, 3.4 per cent. fat; No. 26, 3.4 per cent. fat. The condition of the milk was good at the above factory.

The following Babcock test was made by me at Mather's Factory, town of Henderson, Jefferson county, middle of the month of May, 1896:

No. 1, 4 per cent. fat; No. 2, 3.6 per cent. fat; No. 3, 3.7 per cent. fat; No. 4, 3.6 per cent. fat; No. 5, 3.4 per cent. fat; No. 6, 4 per cent. fat; No. 7, 3.6 per cent. fat; No. 8, 3.5 per cent. fat; No. 9, 3.4 per cent. fat; No. 10, 3.6 per cent. fat; No. 11, 3.5 per cent. fat; No. 12, 4 per cent. fat; No. 13, 3.6 per cent. fat; No. 14, 3.4 per cent. fat; No. 15, 3.4 per cent. fat; No. 16, 3.5 per cent. fat; No. 17, 3.8 per cent. fat; No. 18, 3.2 per cent. fat; No. 19, 3.6 per cent. fat; No. 20, 3.7 per cent. fat; No. 21, 4.2 per cent. fat; No. 22, 4 per cent. fat; No. 23, 3.8 per cent. fat; No. 24, 3.6 per cent. fat; No. 25, 3.5 per cent. fat; No. 26, 3.8 per cent. fat; No. 27, 3.3 per cent. fat; No. 28, 3.6 per cent. fat. The above milk was in good condition, showing good care. The factory is one of the finest in Jefferson county. Drainage perfect.

The following is a record of Babcock test of milk made by me at the Home Cheese Factory of Hon. John P. Douglas, near Theresa, Jefferson county, August 1, 1896:

No. 1, 4 per cent. fat; No. 2, 3.8 per cent. fat; No. 3, 3.7 per cent. fat; No. 4, 3.8 per cent. fat; No. 5, 3,7 per cent. fat; No. 6, 3.8 per cent. fat; No. 7, 3.6 per cent. fat; No. 8, 3.8 per cent. fat; No. 9, 3.6 per cent. fat; No. 10, 4 per cent. fat; No. 11, 3.8 per cent. fat; No. 12, 3.6 per cent. fat, No. 13, 4.2 per cent. fat; No. 14, 3.6 per cent. fat; No. 15, 4.2 per cent. fat; No. 16, 4 per cent. fat; No. 17, 3.8 per cent. fat; No. 18, 3.9 per cent. fat; No. 19, 4 per cent. fat; No. 20, 3.6 per cent. fat; No. 21, 3.6 per cent. fat; No. 22, 3.6 per cent. fat. I found the milk to be in fair condition, though it lacked proper aeration. The factory buildings are being extensively repaired and when completed will be one of the finest and most perfect in northern Jefferson county.

In the month of August I was called to the Winona Cheese Factory in the town of Lorraine, Jefferson county, to make an inspection of milk. Result, I took a sample of milk, Label No. 159, from the mess of one Clark Moore to Dr. Theodore Deecke, chemist, Utica, N. Y., who certified it to be below standard. The case as yet has not been brought to trial.

The 1st of September I was called to attend Circuit Court at Watertown, as a witness in the case of the *People* v. *Albert Golby*, Label No. 3336, it being a sample of milk which I took June 19, 1895, at the Gebler Factory near Redwood, N. Y. Case tried; defendant found guilty and fined $100. About the middle of September I made a Babcock test of milk varying from 3.4 to 4.2. Milk in fine condition. Factory in good condition, clean and drainage good.

The last part of September I made inspection of milk at Philadelphia, Hall's Corners and Brooklyn Cheese Factories, and found the milk in all the above factories to be above standard in fats.

In conclusion, I desire to call your attention to the inspection of vinegar in the fifth division. I think that the Department will be simply voicing public sentiment by vigorously pushing the work of looking after and preventing the sale of impure and unwholesome vinegar, under false names and deception, as much as it was when pursuing that *colossal fraud, oleomargarine.*

Respectfully submitted,

CHAS. S. KELLOGG,
Agent.

All of which is repectfully submitted,

S. BROWN RICHARDSON,
Assistant Commissioner.

REPORT OF CHARLES R. PAYNE.

Hon. Chas. A. Wieting, *Commissioner of Agriculture:*

Dear Sir.— Herewith I respectfully submit my first annual report as Assistant Commissioner of Agriculture for the Sixth Division of the Agricultural Department of the State of New York, comprising the counties of Broome, Chenango, Cortland, Madison, Onondaga, Tioga and Tompkins.

As the year covered by this report ends on September 30, 1896, and as my appointment did not take effect until October 1, 1896, it will be seen that this report is made for the last year in office of my predecessor, Peter H. Parker, Esq.

I find, after much careful examination, that the affairs of this Department are in a very satisfactory condition. Much attention has been given during the year to the quality of the milk shipped from the various factories in the division, and in the main it has been found to be of good quality.

Following are the reports of the agents in the sixth division:

Detailed Report of Work Performed.

REPORT OF JAMES BOICE.

Number of days in court	17
Number of days inspecting milk, butter, cheese and vinegar	176
Number of days inspecting herds	2
Number of days obtaining evidence and delivering samples	21
Number of days on special duty, conferring with P. H. Parker	19
Total number of days	235

Number of creameries inspected as to condition........	52
Number of condensaries inspected as to condition......	1
Number of butter creameries and shipping creameries inspected as to condition...........................	62
Number of cheese factories inspected as to condition...	22
Number of milk pedlers inspected as to condition......	563
Number of stores, milk, vinegar and oleomargarine inspected	50
Number of stables inspected as to condition............	2
Number of cows inspected as to condition.............	38
Number of creamerymen's milk inspected on delivery at railroad depots..................................	32
Number of dairymen's milk inspected on delivery at creameries and railroad depots.....................	993
Number of dairymen's milk inspected at butter creameries	990
Number of dairymen's milk inspected at cheese factories,	326
Number of cans of creamerymen's milk inspected on delivery at railroad depot............................	3,360
Number of cans of dairymen's milk inspected on delivery at creameries..................................	1,834
Number of cans of dairymen's milk inspected on delivery at butter creameries.............................	1,714
Number of cans of dairymen's milk inspected at cheese factories	1,141
Number of cans of pedlers' milk inspected............	2,449
Number of stores' milk inspected.....................	50
Total number of cans of milk inspected...............	10,848
Total number of samples delivered to chemist..........	20
Total number of complaints made......................	13
Total number of appearances in cases.................	17
Estimated number of miles traveled..................	9,175

REPORT OF A. J. McSWEENEY.

Number of days in court	7
Number of days inspecting milk	198
Number of days inspecting butter	11
Number of days inspecting vinegar	15
Number of days inspecting herds	7
Number of days obtaining evidence	3
Total number of days	241

Number of creameries inspected as to condition	86
Number of butter creameries inspected as to condition	75
Number of cheese factories inspected as to condition	11
Number of milk pedlers inspected	478
Number of stores inspected	81
Number of stables inspected	9
Number of cows inspected	83
Number of creamerymen's milk inspected on delivery at railroad depot	191
Number of dairymen's milk inspected on delivery at railroad depot	2,311
Number of cans of creamerymen's milk inspected on delivery at railroad depot	6,991
Number of cans of dairymen's milk inspected on delivery at railroad depot	7,280
Number of cans of pedlers' milk inspected	1,890
Number of cans of stores' milk inspected	36
Total number of cans of milk inspected	16,197
Total number of samples delivered to chemist	10
Total number of complaints made	5
Total number of appearances in cases	5
Estimated number of miles traveled	6,609

REPORT OF CHARLES F. NASH.

Number of days in court	24
Number of days inspecting milk	150
Number of days inspecting herds	20
Number of days obtaining evidence	10
Number of days on special duty	20
Total number of days	224

Number of creameries inspected	52
Number of condenseries inspected	1
Number of butter creameries inspected	30
Number of cheese factories inspected	50
Number of milk pedlers inspected	275
Number of stores inspected	10
Number of stables inspected	20
Number of cows inspected	150
Number of creamerymen's milk inspected on delivery at boat and railroad depots	100
Number of dairymen's milk inspected on delivery at creameries and railroads	1,200
Number of dairymen's milk inspected on delivery at butter creameries	900
Number of dairymen's milk inspected on delivery at cheese factories	2,500
Number of cans of creamerymen's milk inspected on delivery at boat and railroad depots	3,500
Number of cans of dairymen's milk inspected on delivery at creameries and railroad depots	4,400
Number of cans of dairymen's milk inspected on delivery at butter creameries	1,000
Number of cans of dairymen's milk inspected on delivery at cheese factory	3,000
Number of cans of pedlers' milk inspected	850
Number of cans of stores' milk inspected	75
Total number of cans inspected	12,915

Total number of samples delivered to chemist..........	11
Total number of complaints made....................	7
Total number of appearances in cases.................	24
Estimated number of miles traveled..................	7,500

Prosecutions.

MILK.

BOTTLE No. 1427.

Court of Special Sessions, M. C. Allen, Justice.

Warrant was issued November 15, 1895, returnable the same day; plead guilty and was fined $25.

Witnesses: James Boice, and chemist, George W. Cavanaugh.

BOTTLE No. 1443.

Court of Special Sessions, Lewis Bramer, Justice.

Warrant issued November 21, 1895, and returnable same day; plead guilty and was fined $25.

Witness: James Boice.

BOTTLE No. 1433.

This sample was taken by A. J. McSweeney on October 8th, from a herd of cows owned by S. A. Holcomb, for the purpose of ascertaining if the true germs of anthrax could be found in the milk, three of the cows in this herd having died with that disease.

BOTTLE No. 994.

Court of Special Sessions, W. A. Bobbists, Justice.

Warrant issued December 20, 1895, and returnable same day; plead guilty and was fined $25; $20 remitted.

Witnesses: James Boice and A. J. McSweeney.

BOTTLE No. 865.

No warrant has been issued. No record of settlement appears in the case book.

Witness: C. F. Nash.

BOTTLE No. 858.

Court of Special Sessions, James Welch, Justice.

Warrant issued December 14, 1895, and returnable same day; plead guilty and was fined $25.

Witnesses: C. F. Nash, A. D. Eames.

BOTTLE No. 830.

Court of Special Sessions, James Welch, Justice.

Warrant issued December 14, 1895, and returnable same day; plead guilty; sentence suspended.

Witnesses: C. F. Nash, A. D. Eames.

BOTTLE No. 857.

Sample, standard.

Witness: C. F. Nash.

BOTTLE No. 1448.

Court of Special Sessions, J. D. Ross, Justice.

Warrant issued June 23, 1896, and returnable same day; plead guilty; fined $25.

Witnesses: James Boice, F. E. Perry.

BOTTLE No. 1445.

Sample, standard.

Witnesses: James Boice, P. H. Parker. May 19, 1895.

BOTTLE No. 2363.

Court of Special Sessions, S. Moore, Justice.

Warrant issued July 14, 1896, and returnable same day; plead guilty and fined $25.

Witnesses: James Boice, P. H. Parker.

BOTTLE No. 2364.

This case referred to the Commissioner of Agriculture.

BOTTLE No. 822.

Case unsettled.

Witnesses: C. F. Nash, H. J. Hewes.

BOTTLE No. 850.

Case unsettled.

Witnesses: C. F. Nash, William Pierce.

BOTTLE No. 959.

This case referred to Commissioner of Agriculture.

Witness: P. C. Harp.

BOTTLE No. 1450.

Court of Special Sessions, B. B. Reed, Justice.

Warrant issued September 30, 1896, and returnable same day; plead guilty and fined $25.

Witness: James Boice.

BOTTLE No. 3901.

Court of Special Sessions, H. C. Brown, Justice.

Warrant issued September 29, 1896, and returnable same day; plead guilty and fined $25.

Witness: James Boice.

BOTTLE No. 3902.

Court of Special Sessions, H. C. Brown, Justice.

Warrant issued September 29, 1896, and returnable same day; plead guilty and fine remitted.

Witness: James Boice.

BOTTLE No. 2354.

This case referred to Commissioner of Agriculture.

Witnesses: P H. Parker, James Boice.

BOTTLE No. 573.

This case referred to Commissioner.

Counsel: John E. Smith.

Witness: M. T. Morgan.

BOTTLE No. 3903.

This case referred to Commissioner of Agriculture.

Witness: James Boice.

BOTTLE No. 2354.

This case referred to Commissioner of Agriculture.

Witnesses: P H. Parker, James Boice.

BOTTLE No. 2400.

This case referred to Commissioner of Agriculture.

Witness: A. J. McSweeney.

BOTTLE No. 2399.

This case referred to Commissioner of Agriculture.

Witnesses: A. J. McSweeney, Wm. Marble.

BOTTLE No. 861.

Court of Special Sessions, George Bergen, Justice.

Defendant appeared before Justice Bergen, at his office in Earlville; plead guilty and was fined $25.

All of which is respectfully submitted,

CHARLES R. PAYNE,
Assistant Commissioner.

REPORT OF VERLETT C. BEEBE.

Hon. Charles A. Wieting, *Commissioner of Agriculture:*

Dear Sir.— Herewith is submitted the annual report of the work which has been done in the seventh division of the Department of Agriculture of this State during the year ending September 30, 1896.

My appointment to the position of assistant commissioner for this division was made upon the 6th day of July last, and my work therein as such assistant commissioner was begun immediately thereafter, so that it will be seen that this report of the work which has been done under my own supervision can include but a period of less than three months. But I have thought it but right that you should be apprised, in part at least, of the work in this division for the months of the year preceding my connection therewith. Although the sources of my information as to such work done from October 1, 1895, to July 6, 1896, have not been what I would have desired that they had been, and what they should have been to give yourself a full and detailed report for such months, I have been able to ascertain many points which it has seemed to me advisable to be submitted to you. In this research I have been assisted much by my assistants, Grove Barnum and Charles J. Morganstern, who were also connected with your Department as the assistants of my predecessor in office.

This division, comprising the counties of Wyoming, Genesee, Livingston, Schuyler, Steuben and Chemung, it seems, can be second to but few of the divisions of the State in the Department, because of the fact that one of the chief industries of the territory which is embraced in it, which includes several cities and a large extent of prosperous and growing farming country, is that of dairy farming. In this division there are upwards of two hundred cheese factories and creameries, and an enormous quantity of milk is shipped and supplied to not only the cities and many large villages in it, but also to many points outside of it. Soon after my work began my attention was called to complaints made of defections in milk and vinegar in the cities of Hornellsville, Corning and Elmira, and I went to each of these places, and, together with my assistants, made a thorough examination of such. These were so numerous that much of my time during the months of July, August and September was taken up with the investigations there. Yet I found it possible to visit each of the counties of the division and make some general inspection in each, and to gain some understanding of the condition therein, so far as my province went.

So far as my investigation has gone, there is no butterine or oleomargarine manufactured or sold in the division. The price of good quality butter has been so low, and it has been so plenty in quantity, that a resort to these articles as substitutes has seemed needless. No filled cheese is manufactured here, and none has been shipped in, to my knowledge. I have visited a large number of cheese factories throughout the division and have found the general sanitary condition in each case to be good.

But one case of the adulteration of vinegar was discovered. This was in the city of Elmira and was found on September 22d, last.

Three complaints have been made to me of disease among cattle. On July 30th my attention was called to the herd of Michael Dillon, of Darien, Genesee county. The case was referred to Mr. Quigley, veterinarian. August 27th I received notice of cattle dying on the farms of T. Mathews and L. C. Burnam, of Chemung county. I visited these farms immediately but found no contagious disease. Mr. Mathews had lost five cows as the result of poisoning, due to his own carelessness. Only one cow of Mr. Burnam had died, and death came from choking.

During the year a number of stables were inspected, as appears in the summary which is included herein as a part of this report, but in no case was cause for complaint found.

In the months of July, August and September, I caused to be inspected 2430 cans of milk, and as a result seven adulterations were discovered. During the preceding months of the year the agents report that 3165 cans of milk were inspected and seven adulterations found.

Detailed Report of Work Performed.

The following is a report of the work which has been done by the two agents of this division, Grove Barnum and Charles J. Morganstern:

REPORT OF GROVE BARNUM.

From October 1, 1895, to July 6, 1896.

Number of days in attendance at court	5
Number of days in obtaining evidence	2
Number of days inspecting milk	70
Number of days on special duty	7
Total days	84
Number of cheese factories inspected	31
Number of butter creameries inspected	3
Number of condenseries inspected	1
Number of cans of milk inspected, delivered at creameries,	46
Number of cans of milk inspected, delivered at cheese factories	421
Number of cans of milk inspected, delivered at butter creameries	239
Number of cans of milk inspected, delivered at railroad stations	292
Number of cans of milk inspected from milk pedlers	348
Total cans inspected	1,346
Number of samples of milk delivered to chemist	3
Number of complaints made	2

From July 6, 1896, to September 30, 1896:

Number of days spent in inspecting milk	38
Number of days spent in inspecting vinegar	3
Number of days on special duty	5
Number of days inspecting herds	2
Total days	48

Number of creameries inspected	3
Number of cheese factories inspected	16
Number of butter creameries inspected	2
Number of stables inspected	2

Number of cans of milk inspected, delivered at creameries,	159
Number of cans of milk inspected delivered at cheese factories	264
Number of cans of milk inspected, delivered at butter creameries	36
Number of cans of milk inspected, delivered at railroad stations	135
Number of cans of milk inspected from milk pedlers	240
Total cans inspected	834

Number of samples of milk delivered to chemist	4
Number of complaints made	3

REPORT OF C. J. MORGANSTERN.

From October 1, 1895, to July 6, 1896:

Number of days in court	6
Number of days inspecting milk	130
Number of days obtaining evidence	7
Number of days on special duty	14
Total days	151

Number of creameries inspected	12
Number of cheese factories inspected	17
Number of butter creameries inspected	9
Number of condenseries inspected	6
Number of stables inspected	7

Number of cans of milk inspected, delivered at creameries.	310
Number of cans of milk inspected, delivered at cheese factories	246
Number of cans of milk inspected, delivered at butter creameries	190
Number of cans of milk inspected, delivered at condenseries	207
Number of cans of milk inspected, delivered at railroad stations	551
Number of cans of milk inspected from milk pedlers	405
Total cans inspected	1,909

Number of samples of milk delivered to chemist	8
Number of complaints made	5

From July 6, 1896, to September 30, 1896:

Number of days inspecting milk	41
Number of days inspecting herds	3
Number of days inspecting vinegar	6
Number of days on special duty	5
Total days	55

Number of creameries inspected	7
Number of cheese factories inspected	12
Number of butter creameries inspected	4
Number of condenseries inspected	1
Number of stables inspected	4

Number of cans of milk inspected, delivered at creameries.	463
Number of cans of milk inspected, delivered at cheese factories	385
Number of cans of milk inspected, delivered at butter creameries	299
Number of cans of milk inspected, delivered at condenseries	41
Number of cans of milk inspected, delivered at railroad stations	252
Number of cans of milk inspected from milk pedlers	156
Total cans inspected	1,596

Number of samples of milk delivered to chemist	10
Number of complaints made	4
Number of samples of vinegar delivered to chemist	3
Number of complaints made	1

Prosecutions.

MILK.

The following statement shows the number of prosecutions during the year ending September 30, 1896, for violation of the Agricultural Law, relating to the sale of adulterated milk

CASE No. 1585.

Court of Special Sessions, C. H. Bean, Justice.

Warrant issued April 14, 1896; returnable April 14, 1896; pleaded guilty; fined $50.

Witnesses: C. J. Morganstern, Adolph Wyss, and chemist, J. A. Miller.

CASE No. 1620.

Supreme Court.

Summons issued; case settled out of court; paid fine of $100.

Witnesses: C. J Morganstern, Hugh Spers, and chemist, J. A. Miller.

CASE No. 1613.

Summons issued December 7, 1896; pleaded guilty and fined $100.

Counsel: O. Cassedy.

Witnesses: C. J. Morganstern, J. M. Robinson, and chemist, J. A. Miller.

CASE No. 284.

Court of Special Sessions.

Warrant issued November 15, 1895; returnable November 15, 1895; pleaded guilty; fined $50.

Witnesses: C. J. Morganstern, J. D. Higgins, and chemist, J. A. Miller.

CASE No. 1588.

Court of Special Sessions.

Warrant issued April 17, 1896; returnable April 17, 1896; pleaded guilty and fined $25.

CASE No. 1615.

Court of Special Sessions, C. H. Bean, Justice.

Warrant issued December 18, 1896; returnable December 18, 1896; pleaded guilty and fined $25.

Witnesses: Grove Barnum, C. J. Morganstern, and chemist, J. A. Miller.

CASE No. 1580.

Summons issued.

Counsel: William Russell.

Remarks: Case still pending.

CASE No. 1587.

Summons issued.

Counsel: E. M. Bartlet.

Remarks: Case still pending.

Prosecutions from July 6, 1896, to September 30, 1896:

CASE No. 1600.

Civil penalty action; complaint made and action pending.

Counsel: A. E. Baxter.

Witnesses: C. J. Morganstern, Grove Barnum, and chemist, John A. Miller.

CASE No. 1614.

Civil penalty action; complaint made and action pending.

Counsel: A. E. Baxter.

Witnesses: Grove Barnum, C. J. Morganstern, and chemist, John A. Miller.

CASE No. 3403.

Civil penalty action; complaint made and action pending.

Counsel: Stone & Norton.

Witnesses: Grove Barnum, C. J. Morganstern, and chemist, John A. Miller.

CASE No. 3455.

Civil penalty action; complaint made and action pending.

Counsel: C. S. VanGorder.

Witnesses: C. J. Morganstern, A L. Teller, and chemist, F. P. Vandenburgh.

CASE No. 3453.

Civil penalty action; complaint made and action pending.

Counsel: G. S. VanGorder.

Witnesses: Grove Barnum, C. J. Morganstern, and Chemist, F. P. Vandenburgh

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CASE No. 1612.

Civil penalty action; complaint made and action pending.

Counsel: James A. La Sure.

Witnesses: C. J. Morganstern, William Duvell, and chemist, F. P. Vandenburgh

Prosecutions.

VINEGAR.

CASE No. 1215.

Civil penalty action.

Counsel: A. E. Baxter.

Witnesses: C. J. Morganstern, V. C. Beebe, and chemist, F. P Vandenburgh.

All of which is respectfully submitted.

Yours respectfully,

VERLETT C. BEEBE,
Assistant Commissioner.

REPORT OF WILLIAM T. HUGHES.

Hon. CHARLES A. WIETING, *Commissioner of Agriculture:*

Sir.—I have the honor, as assistant commissioner, to submit the following report of work done in the eighth division during the year ended September 30, 1896.

On taking office on the 1st day of June, 1896, I found two agents, namely, George Bernhard and Joseph M. Quigley, in the employ of the Department in this division.

The counties comprising this division, viz.: Cayuga, Monroe, Ontario, Seneca, Wayne and Yates, contain numerous large villages and towns, besides the cities of Auburn and Rochester. In the cities mentioned there are upwards of four hundred milkmen peddling milk on the streets, besides more than two hundred stores where milk is being sold. When you take into consideration all the other duties devolving upon us, you will readily understand my need of additional help, and I respectfully urge the necessity of more agents being regularly employed in this division.

The time of the employes has been largely taken up with the examination of milk, butter, cheese and vinegar offered for sale on the streets and in the stores of Rochester, while as many visits as possible have been made to different parts of the division for the purpose of examining the dairy products and vinegar sold or manufactured there.

Inspections.

The number of inspections of all kinds made during the year were as follows:

Cans of milk	10,850
Barrels of vinegar	337
Stores	778
Dairies	199

Restaurants	302
Boarding-houses	82
Creameries	16
Cheese factories	5
Vinegar factories	7

The number of analyses made during the year were as follows:

Milk	132
Butter	8
Vinegar	1
Total	141

Of these, thirty-four samples of milk and one sample of vinegar proved to be adulterated.

All of the butter was pronounced pure.

Imitation Butter, Butterine, Oleomargarine.

While in the last report from this division mention was made that butter adulterated to the extent of 25 per cent. or more, had been found on sale, it affords me great satisfaction to report that during the past year, the agents, after the most thorough and searching inspections, have not been able to find any imitation butter, butterine or oleomargarine on sale in this division. However, there will be no lack of vigilance on the part of the agents or myself to discover any violations of the law in this respect.

Butter.

The manufacture of creamery butter is a large and growing industry in this division, and a comparatively small amount of dairy butter is manufactured. Several creameries have been put in operation during the past year, and a number of others will doubtless be started in the near future.

Cheese.

The number of cheese factories in this division is very small when compared with other sections of the State. The quality of the cheese manufactured here is generally very good and is mostly consumed by the home trade.

Filled Cheese.

No filled cheese has been found in this division during the year.

Milk.

The quality of milk delivered to the consumers throughout this division has been up to the average. A number of adulterations were found, a detailed report of which is hereto attached under the head of prosecutions.

The consumption of milk in the city of Rochester has very largely increased during the past few years, as shown by the following statement:

On page 314 of the annual report of the Dairy Commissioner for the year ended September 30, 1889, the following table will be found, viz.:

	Gallons.
Received over the N. Y., L. E. & W. R. R.	312,099
Received over the W. N. Y. & P. R. R.	20,133
Received over the B., R. & P. R. R.	9,839
Received on wagons from outside the city	2,469,225
Received from cows housed in the city limits	858,220
Total	3,669,516

Milk sold in Rochester during the past year:

	Gallons.
Received over the N. Y. C. & H. R. R., and W. S. R. R.	688,045
Received over the N. Y., L. E. & W. R. R.	365,368
Received over the B., R. & P. R. R.	43,955

	Gallons.
Received over the L. V. R. R.	40,802
Received over the W. N. Y. & P. R. R.	38,678
Received on wagons from outside the city	3,380,907
Received from cows housed in the city limits (estimated)	625,000
Total	5,182,755

Thus showing an increase of 1,513,239 gallons over 1889.

The comparative increase between the quantities drawn in by wagons and by railroads is very significant. The former shows an increase of less than 50 per cent; the latter increasing almost 350 per cent. While this indicates that husbandmen living long distances from Rochester now have a good market for their milk, it also indicates that less adulteration exists than formerly, since, through the efforts of the agents, dishonest dealers have largely withdrawn from the business, while most of the milk pedlers now doing business in the city are being supplied from these new sources.

Vinegar.

Consumers of vinegar in this vicinity are to be congratulated upon the location of a number of large vinegar manufactories in this division and competition among them insures a product that is almost universally above the standard required by law. Only one sample was taken for analysis during the entire year; and while this was deficient in solids, it was above in acidity. No prosecution was recommended in this instance, as I satisfied myself that there must have been a mistake somewhere rather than an intent at wrong-doing.

Prosecutions.

Assignments for prosecutions in which proceedings have not yet been begun are as follows:

LABEL No. 1664.

LABEL No. 1665.

LABEL No. 1667.

LABEL No. 1670.

LABEL No. 1677.

LABEL No. 1680.

LABEL No. 1681.

Witnesses in above cases: Geo. Bernhard and Jos. M. Quigley.
Chemist: Samuel A. Lattimore.
Attorney: Geo. S. Horton.

LABEL No. 3230.

Witnesses: George Bernhard and Jos. M. Quigley.
Chemist: Samuel A. Lattimore.
Attorney: John Y. Andrews.

LABEL No. 3954.

Witnesses: Joseph M. Quigley and Robert McAdam, Jr.
Chemist: Samuel A. Lattimore.
Attorney: Otto Kelsey.

LABEL No. 1697.

Witnesses: Jos. M. Quigley and Geo. Bernhard.
Chemist: Samuel A. Lattimore.
Attorney: William W. Armstrong.

Cases in which action for penalty has been commenced:

LABEL No. 1696.

Civil action for a penalty.

Supreme Court, Monroe County.

Settled by the Attorney for the People.
Witnesses: Jos. M. Quigley and Geo. Bernhard.
Chemist: Samuel A. Lattimore.
Attorney: William W. Armstrong.

LABEL No. 1688.

Civil action for a penalty.

Supreme Court, Monroe County.

Settled by the Attorney for the People.
Witnesses: Jos. M. Quigley and Geo. Bernhard.
Chemist: Samuel A. Lattimore.
Attorney: William W. Armstrong.

LABEL No. 3206.

Civil action for a penalty.

Supreme Court, Monroe County.

Case pending.
Witnesses: Jos. M. Quigley and Geo. Bernhard.
Chemist: Samuel A. Lattimore.
Attorney: William W. Armstrong.

LABEL No. 1653.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued November 29, 1895; returnable December 5, 1895; adjourned to December 19, 1895; to December 26, 1895; to January 6, 1896; to January 7, 1896; to January 13, 1896; to January 20, 1896; tried; found guilty and fined $25.

Witnesses: Geo. Bernhard and Jos. M. Quigley.
Chemist: Samuel A. Lattimore.
Attorney: James M. E. O'Grady.

LABEL No. 1656.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued November 29, 1895; returnable December 5, 1895; adjourned to December 12, 1895; to December 26, 1895; to January 6, 1896; plead guilty; sentence suspended.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: James M. E. O'Grady.

LABEL No. 1657.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued November 29, 1895; returnable December 5, 1895; adjourned to December 12, 1895; to December 26, 1895; to January 6, 1896; plead guilty; sentence suspended.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: James M. E. O'Grady.

LABEL No. 1662.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued November 29, 1895; returnable December 5, 1895; adjourned to December 12, 1895; tried; found guilty and fined $25.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: James M. E. O'Grady.

LABEL No. 1663.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued November 29, 1895; returnable December 5, 1895; adjourned to December 12, 1895; to December 26, 1895; to January 6, 1896; plead guilty and fined $25.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: James M. E. O'Grady.

LABEL No. 1702.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued November 9, 1896; defendant not yet arrested.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: William W. Armstrong.

LABEL No. 1710.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued November 9, 1896; defendant not yet arrested.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: William W. Armstrong.

LABEL No. 1739.

Police Court, Penn Yan, N. Y.

Warrant issued July 21, 1896; returnable same day; plead guilty and fined $25.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: James M. E. O'Grady.

LABEL No. 2701.

Police Court, Penn Yan, N. Y.

Warrant issued July 21, 1896; returnable same day; plead guilty and fined $25.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: James M. E. O'Grady.

LABEL No. 2712.

Police Court, Penn Yan, N. Y.

Warrant issued July 21, 1896; returnable same day; plead guilty and fined $25.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: James M. E. O'Grady.

LABEL No. 2704.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued June 9, 1896; returnable September 4, 1896; plead guilty and fined $25.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: James M. E. O'Grady.

LABEL No. 2715.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued June 9, 1896; returnable June 11, 1896; plead guilty and fined $25.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: James M. E. O'Grady.

LABEL No. 2749.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued September 3, 1896; returnable September 4, 1896; adjourned to September 11, 1896; plead guilty and fined $25.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: James M. E. O'Grady.

LABEL No. 3203.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued November 9, 1896; returnable November 16, 1896; plead guilty and fined $25.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: William W. Armstrong.

LABEL No. 3242.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued November 9, 1896; returnable November 11, 1896; adjourned to November 19, 1896; plead guilty and fined $25.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: William W. Armstrong.

LABEL No. 3243.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued November 9, 1896; returnable November 11, 1896; case pending.

Witnesses: Geo. Bernhard and Jos. M. Quigley.

Chemist: Samuel A. Lattimore.

Attorney: William W. Armstrong.

LABEL No. 3953.

Police Court, Rush, N. Y., Heath, Justice.

Warrant issued November 19, 1896; returnable November 21, 1896; case pending.

Witnesses: Jos. M. Quigley and Robert McAdam, Jr.

Chemist: Samuel A. Lattimore.

Attorney: Otto Kelsey.

LABEL No. 3957.

Police Court, Rochester, N. Y., Charles B. Ernst, Justice.

Warrant issued October 27, 1896; returnable October 29, 1896; case pending.

Witnesses: Jos. M. Quigley and Geo. Bernhard.

Chemist: Samuel A. Lattimore.

Attorney: James M. E. O'Grady.

During the latter part of September a Babcock machine for testing milk was procured, and its use will greatly aid us in deciding whether a chemical analysis should be made of milk samples taken. Since the arrival of this machine the agents have made tests of many samples of milk from individual cows, for the purpose of assisting dairymen in deciding whether or not certain cows were giving milk of the required standard, and I anticipate that in this respect the Babcock machine will be of inestimable value to consumers of milk in this division.

I wish to commend the painstaking efforts of the chemist and agents to make the work of the Department in this division of the greatest possible value to the community.

Permit me in conclusion to acknowledge the many courtesies I have received at your hands, and to thank you for assistance rendered me by the agents of the Department you have from time to time detailed for special service in this division.

Very respectfully submitted,

WM. T. HUGHES,
Assistant Commissioner.

REPORT OF ASA L. TWITCHELL.

Hon. Charles A. Wieting, *Commissioner of Agriculture:*

Dear Sir.—I have the honor to submit to you my first report of the work done in this (the ninth) division of your Department, comprising the counties of Niagara, Orleans and Erie, during the year ending September 30, 1896. I cannot submit a detailed report of the work done by each agent for the year as I have not the necessary data for the time previous to my appointment, on May 15th last.

I will say, however, that I have had the cordial support of all the agents in this Department in looking after violations of the Agricultural Law.

Our time, all through the summer, has been fully occupied in looking after the milk supply of Buffalo and surrounding villages, cheese factories, adulterated vinegar, and oleomargarine; and that we have not been idle, you will see by the number of cases brought and convictions secured.

Vinegar.

I found adulterated vinegar being sold in nearly all the jobbing and retail groceries in this division, in barrels, branded "Malt Vinegar," which was nothing but a distilled vinegar, colored with caramel, and made to appear like cider vinegar, and in many cases I think the consumer bought it for that.

I think the jobbers have been led to believe that they had a right to sell it in this form, and, as it was not branded cider vinegar, it was not a violation of the law, and in all cases but one, when they found out their mistake, at once sent it back to the manufacturer.

The manufacturers of Buffalo were all in favor of having the spurious article driven out and gave the agents material help. There was one company, viz.: The Prussing Vinegar Company, of Chicago, that claimed selling this vinegar was not a violation of the statute, and they would keep on selling it. Action was at once commenced against their agent in Police Court, but defendant was discharged on the ground that he did not sell it for cider vinegar. This case was not continued further for we had a stronger one against one of their customers; we brought suit for a penalty in the Supreme Court, and penalty was paid with costs, without trial. The company then withdrew their manager from Buffalo, and other cases have had to rest on account of being unable to get service of papers on the parties. I think it safe to say you will find very little adulterated vinegar in this division at the present time.

I have endeavored to have the agents visit every town to examine the vinegar in connection with their other work.

The following vinegar cases have been brought:

CASE No. 355.

Warrant sworn out in Police Court in Buffalo, July 21, 1896; tried; found not guilty.

Witnesses: Hoffman Ruger, A. S. Delano, and chemist, John A. Miller.

CASE No. 354.

Sued for penalty in Supreme Court, June 27, 1896; penalty of $100 and costs paid October 14, 1896.

CASE No. 689.

Pending.

Oleomargarine.

We have kept a constant watch for this article, but butter has been so low in price there has not been much temptation to deal in the counterfeit; but should the price of butter go up, we may expect a lively time in keeping the manufacturers of oleomargarine within the limits of the law.

I append the report of our chemist, Prof. John A. Miller, of some physicological experiments made by him with the coloring which is used in butter and oleomargarine.

Milk.

Looking after the milk supply of Buffalo and the other cities in this division, takes more time than any other one branch of our work, and keeps all hands on the alert.

We have a regular system of examination of milk delivered at platforms of railroads in Buffalo, and in cases where the milk is found to be suspicious we send at once to take official sample; and I have found that when the shipper knows he is constantly watched, he is very careful not to send anything but a good article. Buffalo, with nearly one thousand pedlers, keeps us constantly at work looking after them, and the strong competition has led to cutting prices and helping the profit side out, by selling watered or skimmed milk or both.

The growing city of Buffalo is reaching out after its supply of milk and is gradually absorbing the milk supply of the cheese factories in Erie county, so that their product is decreasing yearly.

It is safe to say the milk sold in this division brings the producers a sum, in round numbers, $1,045,350, as follows:

Lockport, 381,425 gallons	$38,142
Niagara Falls, 336,712 gallons	33,671
Tonawanda, 245,000 gallons	24,500
Villages, 500,000 gallons	50,000
Buffalo, 8,990,833 gallons	899,083
	$1,045,396

The supply of Buffalo is received from the following sources, mostly coming from the counties in this division, with a very little from the seventh and tenth divisions:

NEW YORK CENTRAL & HUDSON RIVER RAILROAD.

	Gallons.
October, 1895	92,003
November, 1895	92,290
December, 1895	91,139
January, 1896	87,844
February, 1896	86,498
March, 1896	86,642
April, 1896	94,380
May, 1896	92,232
June, 1896	98,648
July, 1896	100,935
August, 1896	93,598
September, 1896	91,009
Total	1,107,218

BUFFALO, ROCHESTER & PITTSBURG RAILROAD.

	Gallons.
October, 1895	46,858
November, 1895	47,539
December, 1895	48,373
January, 1896	48,710
February, 1896	49,609
March, 1896	50,393
April, 1896	52,439
May, 1896	61,342
June, 1896	61,814
July, 1896	62,871
August, 1896	61,869
September, 1896	57,126
Total	648,943

WEST SHORE RAILROAD.

	Gallons.
Total amount of milk shipped in above year	241,166

DELAWARE, LACKAWANNA & WESTERN RAILROAD.

	Gallons.
October, 1895	69,091
November, 1895	67,204
December, 1895	67,713
January, 1896	68,017
February, 1896	63,839
March, 1896	68,612
April, 1896	69,237
May, 1896	79,417
June, 1896	77,749
July, 1896	79,324
August, 1896	78,635
September, 1896	72,221
Total	861,059

WESTERN NEW YORK & PENNSYLVANIA RAILROAD.

	Gallons.
Estimated amount of milk	1,200,000

ERIE RAILROAD.

	Gallons.
Erie Railroad, main line	1,614,677
Buffalo, Attica & Arcade Railroad	123,770
Total	1,738,447

AMERICAN EXPRESS COMPANY.

	Gallons.
Estimated amount	146,000

BUFFALO & SOUTHWESTERN RAILROAD.

	Gallons.
Estimated amount	150,000
Total	8,990,883

AMOUNT OF MILK HAULED ON WAGONS.

	Gallons.
Daily	5,200
Yearly	1,898,000

Prosecutions.

MILK.

CASE No. 2197.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued July 18, 1896; arraigned July 23, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2196.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued July 25, 1896; arraigned July 27, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2756.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued July 25, 1896; arraigned July 27, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2764.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued July 25, 1896; arraigned July 27, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2192.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued July 25, 1896; arraigned July 27, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2792.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued July 29, 1896; arraigned July 30, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and John J. Coughlin, and chemist, John A. Miller.

CASE No. 2798.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued July 29, 1896; arraigned July 31, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2787.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued July 29, 1896; arraigned July 31, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2794.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued July 29, 1896; arraigned July 31, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and John J. Coughlin, and chemist, John A. Miller.

CASE No. 3122.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued August 4, 1896; arraigned August 5, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3138.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued August 4, 1896; arraigned August 7, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3141.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued August 13, 1896; arraigned August 15, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3132.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued August 13, 1896; arraigned August 17, 1896; plead guilty and fined $25; fine paid.

Counsel: **Hugo S. Kiene.**

Witnesses: **Frank E. Giese and Michael Galligan, and chemist, John A. Miller.**

CASE No. 3113.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued August 15, 1896; arraigned August 17, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3126.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued August 15, 1896; arraigned August 18, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3125.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued August 17, 1896; arraigned August 18, 1896; plead guilty and fined $25; fine paid.

Counsel: **Hugo S. Kiene.**

Witnesses: **Frank E. Giese and Michael Galligan, and chemist, John A. Miller.**

CASE No. 3131.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued August 19, 1896; arraigned August 21, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3137.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued August 19, 1896; arraigned August 21, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3115.

Justice Court, Eden, N. Y., Levi Bunting, Justice.

Warrant issued September 3, 1896; arraigned September 3, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: William B. Reading and John J. Coughlin, and chemist, John A. Miller.

CASE No. 3116.

Justice Court, Eden, N. Y., Levi Bunting, Justice.

Warrant issued September 3, 1896; arraigned September 3, 1896; plead guilty and fined $25; fine paid.

Witnesses: William B. Reading and John J. Coughlin, and chemist, John A. Miller.

CASE No. 3143.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued September 2, 1896; arraigned September 5, 1896; adjourned to September 9, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3135.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued September 5, 1896; arraigned September 12, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3077.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued September 11, 1896; arraigned September 12, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: William B. Reading and John J. Coughlin, and chemist, John A. Miller.

CASE No. 2751.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued July 19, 1896; arraigned September 29, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3064.

Police Court, Lockport, N. Y., D. F. Stevens, Justice.

Warrant issued September 30, 1896; arraigned September 30, 1896; plead guilty and fined $25; fine paid.

Counsel: Hugo S. Kiene.

Witnesses: John R. Earl and John J. Coughlin, and chemist, John A. Miller.

CASE No. 1835.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned January 10, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 1842.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned January 15, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 1851.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned January 27, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 1849.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned January 31, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 1858.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned February 10, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 1862.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned February 10, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 1863.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned February 19, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 1869.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned February 28, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 1877.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned March 6, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 1891.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned March 19, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2116.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned March 19, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2120.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned March 27, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2121.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned April 10, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2123.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned April 18, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2134.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned April 22, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2140.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned May 25, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2148.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned June 3, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2153.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned June 10, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2142.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned June 16, 1896; plead guilty and fined $25; sent to Erie County Penitentiary.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 2132.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned June 24, 1896; plead guilty and fined $25; fine paid.

Counsel: **E. O. Farrar.**

Witnesses: **Frank E. Giese and Michael Galligan, and chemist, John A. Miller.**

CASE No. 2193.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned July 2, 1896; plead guilty and fined $25; fine paid.

Counsel: **E. O. Farrar.**

Witnesses: **Frank E. Giese and Michael Galligan, and chemist, John A. Miller.**

CASE No. 3773.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned July 3, 1896; plead guilty and fined $25; fine paid.

Counsel: **E. O. Farrar.**

Witnesses: **Frank E. Giese and Michael Galligan, and chemist, John A. Miller.**

CASE No. 2147.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned July 16, 1896; plead guilty and fined $25; fine paid.

Counsel: **E. O. Farrar.**

Witnesses: **Frank E. Giese and Michael Galligan, and chemist, John A. Miller.**

CASE No. 2800.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned July 21, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3104.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned August 29, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASE No. 3081.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned September 3, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses.: William B. Reading and John J. Coughlin, and chemist, John A. Miller.

CASE No. 3076.

Police Court, Buffalo, N. Y., Thomas S. King, Justice.

Warrant issued; arraigned September 25, 1896; plead guilty and fined $25; fine paid.

Counsel: E. O. Farrar.

Witnesses: Frank E. Giese and Michael Galligan, and chemist, John A. Miller.

CASES PENDING.

Case No. 3145; Case No. 2763; Case No. 3096; Case No. 3148; Case No. 3083; Case No. 3111; Case No. 3603; Case No. 3059; Case No. 3626; Case No. 3655; Case No. 3634; Case No. 3615, action commenced in Supreme Court for penalty; Case No. 3661, action commenced in Supreme Court for penalty; Case No. 2758, action commenced in Supreme Court for penalty; Case No. 2950, action commenced in Supreme Court for penalty; Case No. 3079, action commenced in Supreme Court for penalty; Case No. 2495, action commenced in Supreme Court for penalty; Case No. 3620; Case, No 3607; Case No. 3632; Case No. 3636; Case No. 1306.

REPORT OF JOHN A. MILLER.

Mr. ASA L. TWITCHELL, *Assistant Commissioner of Agriculture:*

Dear Sir.—I have the honor to report the results of a few physiological experiments made some little time since, with a commercial article known as butter coloring, and also some of the color which was extracted from commercial oleomargarine.

The material as supplied the trade is a liquid of brown color, and consists of di-methyl-amido-azo-benal dissolved in oil.

A dog of about twenty pounds weight was carefully fed and watered and kept until he became thoroughly acquainted with the experimenter. At two different times he was given a dose of one tablespoonful of olive oil whereby the bowels were loosened and the stools softened. Three days after the administration of the last dose of olive oil, two teaspoonfuls of W. R. & Co.'s butter color as supplied the trade, was administered. In about two hours violent vomiting and retching set in, which was followed by muscular tremors and prostration. The muscular prostration continued for several hours. Temperature remained normal; heart-beat was increased and the eye became glassy in appearance. The vomited matter was of a decided yellow color. The following day the dog was in apparently normal condition again. Two days later another dose of one teaspoonful was administered. In two hours vomiting and retching set in, followed again by muscular tremors and prostration. The muscular prostration continued for several hours. The temperature was normal; the heart-beat slightly increased, and the eye glassy. The next day condition apparently normal. After waiting about five days, during which time Mr. Dog was in apparently perfect health, another dose of one-half teaspoonful of the color was administered. There was no vomiting, although apparently a nausea, which was accompanied by slight muscular tremors and some prostration. Temperature was normal; heart-beat slightly increased; eye glassy.

The animal was then allowed to rest for ten days. During the interval the coloring matter contained in eight ounces of commercial oleomargarine was extracted and after purification from alcohol, etc., was administered in one dose to the dog. There was no vomiting, retching or apparent nausea. Three hours after the administration of the dose, muscular prostration, with an occasional tremor set in and continued for a short time. This was followed by a listlessness and disinclination to muscular effort, which continued for several hours. The temperature was normal; heart-beat slightly increased; eye glassy.

The following day Richard was himself again, and continued so for nearly a month when he was turned loose to roam at will.

Very respectfully yours,
JOHN A. MILLER, Ph. D. (Berlin),
Department Chemist.

In conclusion I take great pleasure in stating that I have been assisted in every possible manner by each of the State agents, chemists and counsel employed in this division of the Department of Agriculture.

I will also add that the judges of the courts in which prosecutions have been brought have given every detail of the work of this Department prompt and careful attention.

Yours respectfully,
ASA L. TWITCHELL,
Assistant Commissioner.

REPORT OF JAMES P. CLARK.

Hon. Charles A. Wieting, *Commissioner of Agriculture:*

Dear Sir.—Agreeable to your request, I herewith most respectfully submit my annual report as assistant commissioner of the tenth division, comprising the counties of Allegany, Cattaraugus and Chautauqua, for the year ending September 30, 1896.

A moderate amount of rain fall during the earlier months, when we are apt to have a surplus injurious to pastures, supplemented by an increased amount later in the season, at a time when severe drought usually prevails, have caused extremely favorable conditions for grazing throughout the season, and have resulted in an extraordinary large production from the dairies of this section.

The scant hay crop and other conditions prevailing in this vicinity during the earlier part of the season caused some uneasiness in regard to the supply of winter forage, but abundance of pasture during the later months has given opportunity for the husbanding of corn and other crops, and farmers are approaching winter in most cases with an abundance of fodder.

A brisk demand for cows has set in at prices much in advance of last season. The unusually low prices at which sales of dairy produce have been made, and which have been maintained until much later in the season than usual, owing to the large accumulation in the consuming centers, have greatly depressed dairymen, and in many cases have operated to prevent the introduction of improved methods which might otherwise have been adopted.

Notwithstanding the low prices and depressing influences, dairy farmers seem to be most prosperous of those engaged in agriculture in this portion of the State; and the additional fact must not be lost sight of that under the dairy system intelligently conducted the fertility of the soil is being maintained and its products are much larger than they would otherwise be.

The use of the method of paying for milk or declaring dividends by the Babcock test continues to increase, and where the work is carefully and intelligently done is gaining favor among the farmers, as the justice and equity of the system becomes better understood.

Some of the more systematic, businesslike dairymen are practicing the system of weighing and testing regularly the milk of each individual cow separately, for the purpose of ascertaining the amount of butter fat produced by each for the year, and thereby deciding which are most desirable to retain in and replenish the herd. This practice is highly to be commended, as there is little doubt that under the present low prices the best cows are paying for at least some part of the cost of keeping the poorer ones, and that part of the cows might be profitably disposed of, thereby lessening materially the cost of production. The extension and more general use of this system is to be desired, until no dairyman will keep a cow which is not capable of producing at least 200 pounds of butter per year.

The study of dairy producing ancestry, and dairy form, in their relation to the successful upbuilding of a profitable herd of dairy cows, is becoming better appreciated and many farmers have made valuable investments for improvement in that direction.

The disease known as anthrax, which destroyed so many of our cattle last year, owing to more favorable conditions of moisture and more even temperature, has done little damage this season.

Interest in farmers' institutes increases each year, and consequently greater benefit is derived. Those to be held in this vicinity during the coming winter months are looked forward to with pleasant anticipation, which gives promise of good attendance and interesting sessions.

Prosecutions.

MILK.

Attorneys have been designated by the Attorney-General for the cases sent in from this division last year, and disposition made of them as follows:

LABEL No. 1099.

Brought to trial February 3, 1896. In court of Justice S. H. Seymour of Salamanca, N. Y., and judgment obtained for one hundred dollars.

Attorney: J. S. Whipple.

LABEL No. 2027.

Defendant appeared before Justice Smith of Allegany, N. Y., February 8, 1896, and was fined twenty-five dollars.

Attorney: F. W. Kruse.

LABEL No. 1032.

Penalty of one hundred dollars paid to F. W. Kruse of Olean, N. Y., March 7, 1896.

Attorney: F. W. Kruse.

LABEL No. 1563.

Penalty of one hundred dollars and costs paid to the attorney.

Attorney: Leon L. Fancher, Jamestown, N. Y.

LABEL No. 1566.

Penalty of one hundred dollars and costs paid to the attorney.

Attorney: Leon L. Fancher.

LABEL No. 1569.

Defendant appeared before Justice Hanchett of Jamestown, N. Y., January 18, 1896, and was fined twenty-five dollars and costs.

Attorney: Leon L. Fancher.

LABEL No. 1568.

Defendant appeared before Justice Hanchett February 19, 1896, and was fined twenty-five dollars and costs.

Attorney: Leon L. Fancher.

LABEL No. 2030.

Defendant living in the State of Pennsylvania, the attorney has been unable to serve papers.

Attorney F. B. Church.

LABEL No. 2029.

Defendant living in the State of Pennsylvania, the attorney has been unable to serve papers.

Attorney: F. B. Church.

LABEL No. 2060.

This case is still in the hands of the attorney for prosecution.

Attorney: J. S. Whipple.

LABEL No. 2062.

A penalty of one hundred dollars paid to Justice S. H. Seymour of Salamanca, N. Y., January 6, 1896.

Attorney: J. S. Whipple.

LABEL No. 2063.

The defendant appeared before Justice S. H. Seymour of Salamanca, N. Y., and paid fifty dollars and costs, January 6, 1896.

Attorney: J. S. Whipple.

LABEL No. 2080.

The defendant absconded before attorney had been designated.

Attorney: J. S. Whipple.

LABEL No. 2079.

The defendant appeared before Justice S. H. Seymour of Salamanca, N. Y., April 25, 1896, and was fined twenty-five dollars.

Attorney: J. S. Whipple.

LABEL No. 2027.

No attorney has been designated in this case.

LABEL No. 2028.

No attorney has been designated in this case.

LABEL No. 2082.

Penalty of one hundred dollars and costs paid to the attorney.

Attorney: Leon L. Fancher.

LABEL No. 2085.

Defendant became insane and was taken to a hospital at Buffalo soon after the sample was taken.

Attorney: F. W. Kruse.

LABEL No. 2087.

Defendant appeared before Justice W. H. Proctor, of West Valley, May 6, 1896, and was fined thirty dollars.

Attorney: F. W. Kruse.

LABEL No. 2065.

Penalty of one hundred dollars and costs paid to attorney, February 29, 1896.

Attorney: Leon L. Fancher.

LABEL No. 2071.

Judgment by stipulation with the attorney and the defendant compromising action for fifty dollars and taxable cost.

Attorney: J. S. Whipple.

LABEL No. 2081.

Warrant issued January 6, 1896, by Justice S. H. Seymour, of Salamanca, N. Y. Defendant pleaded guilty and fined twenty-five dollars.

Attorney: J. S. Whipple.

LABEL No. 2416.

Defendant appeared before Justice Arnold of Mayville, N. Y. Pleaded guilty and sentence suspended, January 28, 1896, for ten days. Afterward appeared and fined twenty-five dollars by the court.

Attorney: William Russell.

LABEL No. 2083.

Defendant appeared before David O. Phillips, of Farmersville, N. Y., April 3, 1896, and fined twenty-five dollars.

Attorney: F. W. Kruse.

LABEL No. 2415.

This case is still in the hands of the attorney.

Attorney: F. W. Kruse.

LABEL No. 2068.

Defendant appeared before David O. Phillips, of Farmersville, N. Y., April 4, 1896, and fined thirty-five dollars.

Attorney: F. W. Kruse.

LABEL No. 2054.

Defendant appeared before David O. Phillips, of Farmersville, N. Y., and fined thirty-five dollars.

Attorney: F. W. Kruse.

LABEL No. 2414.

A penalty of one hundred dollars and costs was paid January 18, 1896, to Justice S. H. Seymour, Salamanca, N. Y.

Attorney: J. S. Whipple.

LABEL No. 2995.

Tried at the January, 1896, term Supreme Court, Mayville, N. Y. Judgment obtained for one hundred dollars and costs. Appealed by the defendant to the General Term.

Attorney: D. C. Riley, Randolph, N. Y.

Detailed Report of Work Performed.

The following is a record of the work performed by the agents of the Department in this division:

W. J. Corbett.—

Number of cheese factories at which milk was inspected	31
Number of butter factories at which milk was inspected	10
Number of towns and villages at which milk was inspected	3
Number of dairies and herds inspected	7
Number of cheese and butter factories visited without inspection	14
Number of days attending cases	4
Number of samples inspected	1174

C. B. Wakefield.—

Number of cheese factories at which milk was inspected	78
Number of butter factories at which milk was inspected	11
Number of towns and villages at which milk was inspected	6
Number of herds inspected	1
Number of cheese and butter factories visited but not inspected	3
Number of days attending cases	5
Number of samples inspected	1903
Number of samples taken to chemist	2
Number of samples found below standard	1

P. H. Kelly.—

Number of cheese factories at which milk was inspected	52
Number of butter factories at which milk was inspected	4
Number of towns and villages at which milk was inspected	3
Number of herds inspected	3

Number of butter and cheese factories visited but not inspected	17
Number of days attending cases	3
Number of samples inspected	1430
Number of samples taken to chemist	3
Number of samples found below standard	2

Dr. W. E. McDuffie.—

Samples analyzed	6

J. P. Clark.—

Number of cheese factories at which milk was inspected	18
Number of butter factories at which milk was inspected	14
Number of towns and villages at which milk was inspected	1
Number of herds inspected	4
Number of butter and cheese factories visited but not inspected	6
Number of days attending cases	30
Number of samples inspected	1127
Number of samples taken to chemist	1
Number of samples found below standard	1

Prosecutions.

The following cases have been sent to the Department for prosecution:

LABEL No. 2424.

THE PEOPLE *v.* JAMES A. HAYHOUSE.

Attorney: Leon L. Fancher.

LABEL No. 2035.

THE PEOPLE *v.* FREELAND FROST.

LABEL No. 3326.

THE PEOPLE *v.* SAMUEL D. KARR.

LABEL No. 3314.

THE PEOPLE *v.* ALONZO RANSOM.

There has been much greater demand than last year for the inspection of milk, showing the increased favor in which the work of the Department is held. Notwithstanding the large amount of work performed and the greater vigilance exercised, only four samples have been found below the standard, while the total last year was twenty-eight.

The vigorous manner in which prosecutions have been conducted has served as a warning to those who might be inclined to violate the law, and offenses of this nature are apt to be less frequent in the future.

In conclusion, allow me to extend to you my sincere thanks for the kindness received at your hands, and to Assistant Commissioner George L. Flanders and to the agents of the Department at Albany, my gratitude for the prompt and courteous manner in which every need of this division has been supplied.

Respectfully yours,
JAMES P. CLARK,
Assistant Commissioner.

REPORT OF GEO. A. SMITH.

Hon. Charles A. Wieting, *Commissioner of Agriculture:*

Dear Sir.—I have the honor to submit the following report of the work performed by me as Director of Farmers' Institutes from October 1, 1895, to July 15, 1896, when I transferred the work to Mr. F. E. Dawley, the present Director.

In preparing this report it has seemed, in making a report of the meetings, that it would be fitting not only to give a list of the places visited, and the speakers employed, with the subjects of their addresses, but also to give some thoughts from them, and also a few papers, showing some of the best and most practical ideas brought out by the local speakers in dairy lines.

In carrying on the past year's work, I have been more firmly convinced that the idea expressed in my last year's report was correct, viz.: That to make the Institutes a success they must be kept on thoroughly practical lines, and that the speakers must be practical men, able to show by their past record that the ideas advanced by them can be successfully carried out; at the same time they must have taken time to post themselves on the scientific side of agriculture, and also be able to express their own thoughts as well as those which they have gleaned by study, in a convincing and yet pleasing manner.

I have carried out this idea to the best of my ability, and the following is a list of speakers who have assisted me.

Mr. F. E. Dawley, of Fayetteville, Onondaga county, N. Y., who gave talks on "The Composition and Use of Commercial Fertilizers in Connection with Farm Manures," "Some Points in the Selection of the Dairy Cow" and "Profit in Eggs." Mr. Edward Van Alstyne, of Kinderhook, Columbia county, N. Y. The subjects treated by him were "Economical Use of Commercial Fertilizers," "How to Make Apple Culture Profitable," "The

Modern System of Potato Culture," and "The Benefit of the Silo to the New York State Farmer."

Mr. F. A. Converse, of Woodville, Jefferson county, N. Y., treated the subject of "How to Build and Fill the Silo," and "Education for the Farmer's Boys and Girls."

Mr. H. E. Cook, of Denmark, Lewis county, N. Y. His subjects were: "How to Feed and Care for the Dairy Cow," "Profitable Milk Production," "The Value of the Silo on Our Farm," and "The Ins and Outs of Butter Making."

Mr. James E. Rice, of Yorktown, Westchester county, N. Y., gave a talk on "The Proper Management of Poultry in Order to Make the Business Profitable," "My Grandfather's Garden as it was Managed when I was a Boy Compared with the Present Plan of Cultivating it," and "Small Fruits as a Business for the Farmer."

Mr. A. R. Eastman, of Waterville, Oneida county, N. Y., talked on "Business Principles Applied to Farming," "Hop Growing," "The Value of a Silo on a Hop Farm," and "Better Methods on the Farm."

Mr. J. S. Woodward, of Lockport, Niagara county, N. Y., treated the subjects of "Sheep as a Factor in Successful Apple Growing," "Winter Lamb Raising," "Which is of Greatest Importance in Successful Dairying, the Breed of the Animal or the Food She Receives."

Mr. L. J. Farmer, of Pulaski, Oswego county, N. Y., subject, "Strawberries, Highest Culture for the Best Results," "The Value of Small Fruit for the Farmer."

Mr. J. Van Wagenen, Jr., Lawyersville, Schoharie county, N. Y., treated the subject of "Butter Making," "Bacteria in Agriculture," and "The Theory and Practice of Ripening Cream."

Mr. Geo. W. Sisson, Jr., of Potsdam, St. Lawrence county, N. Y., "Breeding and Care of Live Stock."

Mr. Geo. C. Snow, Penn Yan, Yates county, N. Y., "The Grape as an Article of Food," "Grape Growing in New York State."

Dr. L. L. Van Slyke, of Geneva Experiment Station, "The Arithemetic of Commercial Fertilizers," "What the Experiment

Stations are Doing for the Farmer," "The Chemistry of Milk," "How Plants Grow."

Prof. S. A. Beach, Geneva Experiment Station, gave talks on "Unproductive Apple Trees," "Currants and Gooseberries," "Diseases of Fruits and Trees, How to Control Them," "The Root, the Stem, the Leaf," "Spraying and its Benefits."

Prof. I. P. Roberts, of Cornell University, Ithaca, N. Y., spoke upon the "Conservation of Moisture," and Economy in the Use of Nature's Forces."

Prof. H. H. Wing, of Cornell University, Ithaca, N. Y., "The Evaporation in the Farm Dairy," "From the Manger to the Milk Pail."

Prof. L. H. Bailey, Cornell University, Ithaca, N. Y., "Pruning Trees," "Cultivation of the Orchard," "The Value of Spraying."

Dr. C. D. Smead, of Logan, Schuyler county, N. Y., spoke upon the subject of "Diseases of Farm Animals," and "Bovine Tuberculosis."

Mr. A. W. Litchard, of Rushford, Allegany county, N. Y., spoke on "Essentials of Success in Farming," and "Potato Culture."

Mr. L. D. Gale, of Stedman, Chatauqua county, N. Y., spoke on "Some Requisites for Profitable Potato Culture," "How to Treat Some Common Diseases of the Potato Plant."

Mr. A. D. Harrington, of Oxford, Chenango county, N. Y., spoke on "Ensilage and Care of Dairy Cows in Winter," and "A Business Talk to Young Men and Boys."

Mr. W. W. Hall, of Gouverneur, St. Lawrence county, N. Y., spoke upon "The Necessity and Care of the Cow and the Milk by the Farmer to Make the Creamery and Cheese Factory a Success," "The Value of the Babcock Fat Test to the Dairy Farmer."

Mr. M. T. Morgan, of West Winfield, Herkimer county, N. Y., spoke on "Some Points to Head a Successful Cheese Production," "The Value of Aeration of Milk by the Farmer for Cheese Making."

Mr. Geo. T. Powell, of Ghent, Columbia county, N. Y., "Small Fruits," "Orcharding," "Spraying," and "Education for the Farmer's Children."

Mr. Seth Fenner, of East Aurora, Erie county, N. Y., spoke on "Apple Culture," and "Value of Clover to the Farmer."

Mr. Henry Van Dreser, of Cobleskill, Schoharie county, N. Y., spoke on the "Selection of the Dairy Cow," "Co-operation in Horse Breeding," "The Place for Sheep on the New York State Farm."

Mr. John Gould, Aurora Station, Ohio, spoke on "The Farmer a Manufacturer," "Corn the Great Starch Crop," "Small Fruits for the Farmer," and "Successful Success."

Mr. T. H. Terry, of Hudson, Ohio, took up the subject of "Value of Clover to the Farmer," "Profitable Potato Culture," "The Wife's Share," "Strawberries for the Farmer."

Mr. Albert Wood, Carlton, Orleans county, N. Y., spoke on "Profitable Apple Culture."

Mr. B. J. Case, of Sodus, Wayne county, N. Y., spoke on "Evaporated Fruits," and "Wholesale Small Fruit Growing."

I believe that the following papers and addresses are fairly representative of the ideas which we have tried to bring out at the Institutes.

The Institute: Its Object and Scope.

A. R. Eastman.

At the Pittsford Institute Mr. Eastman acted as conductor. A brief address of welcome was given by Mr. J. M. Wiltsie, after which he introduced Mr. Eastman as Director Smith's substitute.

Mr. Eastman said:

Ladies and Gentlemen.—It is a little unfortunate for me that Mr. Wiltsie was compelled to introduce me as a substitute for the director, Mr. Smith, whose duties elsewhere prevent his attendance here. The older members of the audience will remember the days of sixty-two and sixty-three, when the substitute and the man who bought him were both looked upon with suspicion as lacking in genuine patriotism. For fear that his introduction may have conveyed some such impression as to our patriotism, for agriculture and its allied interests, I desire to say that Mr. Smith's heart and soul are in the work, and that notwithstanding I am here as a substitute, I bring with me a sympathy that is deep in love with the work, and which is supported by an inexhaustible supply of hope and faith that we shall be able to overcome many of the difficulties which have confronted us in the past, and in time place agriculture upon a higher plane.

The forces with which we have to contend to-day are far more numerous and more deeply intrenched than were those of thirty years ago. With the advent of each season there seems to arise new difficulties, which call for prompt action and good generalship, and they may be overcome and held in abeyance by that superior power which was given unto man in the proclamation that he "should have dominion."

It is true, as Mr. Wiltsie said in his introductory remarks, that the farmer occupies a very independent position among the other forces. He has in a great measure been sheltered during the past year from the waves of depression which have been wrecking other industries. While the whole country has been passing through the trying ordeal of a great financial depression, yea, almost a cyclone of devastation, in the shutting down of its mines, the closing of its banks and financial institutions, the stopping of the wheels of industry, and the banking of the fires in the great manufacturing centers, agriculture has been the least disturbed. For months the manufacturing and financial interests of the nation have been so paralyzed that the wisest financiers among us have been wearing sober faces and knitted brows, and when called in consultation have been unable to devise any way or means by which this tide of depression could be checked or turned aside. The cities and manufacturing centers have been filled with starving thousands, who have been supported by public charity. The public highways and lanes have been lined with men asking for work and something to do that they might keep the wolf from the door and the family out of the poor-house.

While the influence of this depression may have reached the farm, its effect, when brought under the light of comparison, is barely noticeable; and certainly we all realize that the active farmer can always find plenty of work for each day of the year, and when we enter the farm homes, we find the table supplied with all the necessaries and many of the luxuries of life, and the family enjoying an independence that is supreme.

But I must not weary you with moralizing, though there is much upon this line that is directly applicable to occasions like this and which could be profitably considered, but rather confine my talk to the subject assigned to me, "The Object and Scope of the Dairy Institute." Though this is the first institute held at Pittsford I am lead to believe that it is not necessary to explain its object or manner of conducting, for I recognize among those present many who have been in attendance at institutes in other places. I see that you have here, in Pittsford, a fine school building, and understand that it is equipped with all the modern appliances; that you have a good corps of teachers, competent and qualified for the various positions to which the are assigned, with a course of study so outlined that it meets the wants and demands of those who seek its advantages. You are pleased to pay whatever taxes may be levied for the support of the school, for you fully realize the great good which it is doing in your community. You are proud of the opportunity which you have made possible for giving your children such superior advantages for looking into mysteries, which you as a child or student never solved. It is your aim and desire that your children shall have superior advantages and a broader and better education than did you. The part which you have taken in the contest for a position among the other forces has taught you that there is a great need for better work and a broader field for investigation. Of what benefit to your community would be the fine building with all its modern improvements if closed for the lack of patronage?

Of what use the corps of educated teachers or the well arranged curriculum in an empty building? The benefits to be derived are just in proportion to the opportunities accepted and utilized. The necessity for a more thorough and practical education or one more suited to the wants of the times is becoming so apparent and the demand in this direction so imperative that we find many of our best schools and colleges are changing their curriculum so as to meet the wants of patrons by making the course elective and giving special instruction upon special subjects.

The whole trend of educational work at the present time is in special lines. So must it be with those who are to direct the great agricultural and dairy industries of this country. If success is to follow, the directive agency must be under the generalship of men educated and trained with special reference to the field chosen for their operations.

The necessity for a change from the old regime has been apparent for a long time. Past practices in these modern days have failed to produce satisfactory results among the great mass of dairymen, and for that reason dairy institutes or schools are being held in various sections of the State with the object of stimulating thought and ultimately bettering dairy practices.

The growing interest which is manifested in all these dairy meetings is a surprise even to those who have been identified with them for a series of years. Those sections which in the past have been largely devoted to the growing of grains and the cultivation of fruits are turning their attention to the dairy as a means of getting a larger and better production of grains and fruits, while the older dairy sections seem to be infused with a new life that gives great promise of ample reward for having entered a new field. I do not believe there was ever a time in the history of the dairy industry when there was so great a desire for dairy knowledge or when the dairymen's mind was so receptive, as the present. The multiplication of the dairy press and the thousands of volumes of dairy literature are the direct outcome of the dairy institutes. I venture to say to you that most of those whose heads are no grayer than mine can remember the days when all the butter was made on the farm and disposed of at the stores as the only channel through which it could reach the consuming public; all bringing the same price, and all dumped into the same barrel or box in the cellar to be sorted, reworked and repacked before being shipped to market. Creameries had not even germinated; pound prints in parchment paper, fancy pats and packages, were unknown in those days. Private customers and special markets had not been thought of. Fancy prices for special dairies had hardly been conceived by the most progressive imagination, and quality was only a minor feature.

From those early days up to the present, there has been a growing demand by the great consuming public (whose critical tastes and peculiarities we must acquiese in) for something better, superior in quality and possessing a high, quick flavor, firm in texture, and that it should be delivered fresh from the churn each day in the year. The dairyman who fails to meet any one of these requirements will come just so much short of reaching the dock upon which stands the consumer, with money in hand ready to pay for the cargo.

One of the objects of the dairy institute is to assist the dairymen in remodeling their dairy husbandry so as to meet the wants and demands of the consuming public who pay for the product, and consequently have a right to dictate as to quality and the style in which it shall be put upon the market. If we will only show a little good judgment and exercise that tact and business sense that we see so often displayed in so many ways by men in other callings, we shall get our forces so deployed that we can meet the demand for butter fresh from the churn in winter as well as in summer, with or without salt, in pound prints inclosed in parchment paper, or paper with a gilt edge in fancy packages; in fact in any way the consumer may desire, so long as he is willing to pay a remunerative or fancy price.

To meet these demands and reach a financial success, we shall be obliged to exercise greater skill in the mechanical, and display broader intelligence in the executive departments of our dairy husbandry. I do not believe that these requisites will come to us either by intuition or legislation, but rather through study and the close application of business sense. A broader intelligence will give us a better knowledge of the various breeds of our dairy stock. Where, how and for what purpose and under what conditions they have been bred and developed, and what the records they have made. The progressive dairymen, those who have become expert and are conducting a successful business, acknowledge the importance of all these features, and say to us they must be recognized by all who enter into competition.

Much dissatisfaction has been expressed in the past at the small returns received for the products of the dairy, as they have not been commensurate with the capital invested and labor required. Instead of looking for the cause of the trouble, which was deep rooted in the management, they have unjustly sought to lodge the greater portion of these complaints against the cows. Vast sums of money have been expended within the past twenty years for new breeds, believing that the desideratum could be found in that direction. From the Northland came wonderous stories of a breed of cows whose milk-giving powers were unlimited; from the islands of the sea, a romance about cows so constituted that their entire product was solid butter fats, and from the Alps came whispers of a breed that combined both these essentials. From almost the first importation up to the present time there has been a general rush among the dairymen of the country to obtain these breeds, honestly believing that in them they would find their mascot.

For the masses this vast expenditure of money has proven unprofitable, and the results obtained disappointing, while to the few it has proven a grand investment, and the results far more satisfactory than the imagination had pictured. In ninety per cent. of those cases which have resulted in failure and disappointment, the cause can be traced to a lack of appreciation (on the part of the purchaser) of the skill and care which had been bestowed upon these various breeds for hundreds of years, and on the other hand the measure of success has been commensurate with this knowledge and appreciation, that the greatest intelligence in breeding and feeding is back of these breeds, and that they are the handiwork of men skilled in the art. If we are to get the maximum yields in either milk or butter production, we must make the conditions such as to meet the natural requirements of these breeds. The power of heredity is far reaching, and should be more fully understood than it is.

The scope of the institute is to agitate and discuss all these questions and through this medium to awaken a greater interest, infuse new thoughts and ideas into the minds of the dairymen as well as new and better blood into the veins of the dairy cow.

Instead of depending so much upon imported stock to replenish our dairies, I think it would be wiser, and within a short time prove more profitable, if we would breed them by making selections of dams from our best native stock. We would certainly have stronger and more robust constitutions, and we would also have the additional advantage of having cows that are inured to our changing climate and varied conditions.

It is said that one of the masterpieces of the sculptor's art is the statue of David, and that it was carved by Michael Angelo from marble that had been rejected as unfit for use by his brother artists. As Angelo saw in that rejected marble the masterpiece, so do I see in the rejected and neglected native cow, the master dairy cow of the world, fashioned by the hands of our progressive dairymen.

The officer who stands with perfect confidence upon the bridge of the great transatlantic steamer, and shapes her course while ploughing through the open sea and battling against storm and tempest, is only too glad when entering port to give way to the pilot whose superior knowledge of the channel and the location of the dangerous rocks and reefs, will enable him to bring her safely to her dock. Thousands of our dairymen have been sailing upon the open sea of the dairy industry with fair success, while other thousands have been wrecked upon the rocks and reefs when trying to reach the port without the aid of a pilot. The changed conditions are demanding that we must have a perfect knowledge of the channel and possess the skill of the pilot.

Investigations and soundings by the aid of the new and powerful search-light of Dr. Babcock of Wisconsin, has made it possible for our advanced investigators to mark upon the chart many dangerous rocks which have made the channel so treacherous in the past. When Dr. Babcock said he had found a simple and inexpensive way by which anyone of ordinary intelligence could accurately determine the per cent. of butter fats in milk, the skeptics set him down as a scientific crank, while many of the learned men said it was impossible. But thorough and careful check tests have been made until the most skeptical are satisfied, and the scientific convinced that the discovery is even more than was claimed for it. This powerful dairy search-light has done more since Dr. Babcock gave it to the dairymen of the world, three years since, in lighting up the dark corners and recesses and bringing into full view dead theories, over which we have been stumbling all these years, than a combination of all the other lights we ever had. Not only is it a wonderful acquisition in the butter dairy, but its light is equally strong and useful in the cheese industry. By the aid of this light, it has been made possible for Dr. Van Slyke of our Experiment Station at Geneva, to make investigations in the line of cheese-making, the results of which show conclusively that we have been following vague theories which have been handed down to us as heirlooms of past practices.

The experiments of Dr. Van Slyke have been so full, so carefully made, and upon such an extended scale, that the results must be accepted as authoritative. The work has conclusively proven that the controling element in cheese-making is the butter fat. That those dairies which run highest in the per cent. of butter, made the greatest number of pounds of cheese from a given number of pounds of milk. That if the milk could be handled by men who had been educated in the special line of cheese-making the per cent. of loss in high grade milk would be less than in low grade.

This work, started at our station, has been taken up in other States, and the results will go to prove that there must be a complete revolution in the cheese-making industry, and that the dairymen must change the old policy for the new. So rapid have been the changes that those things which were new yesterday are almost antique to-day. Note the changes that are constantly taking place in all the avenues of manufacture, trade and commerce, and how the energies of the motive power is being stimulated by the addition of new machinery and the application of new principles. Watch the train of cars that passes your door every hour in the day, drawn by a locomotive of great size and power, then compare it with the one that passed your door twenty years ago. Then its power was taxed to its uttermost to draw twenty-five or thirty cars of twelve tons each. The engine of to-day seems to move with perfect ease with its load of sixty or seventy cars of thirty tons each. The capacity of each train is more than doubled, while the expense is but slightly increased. These changes which we note as having taken place in the management of this particular railway, is but one among the thousands which have been and are continually being made.

It seems to me that they offer some valuable lessons which we should consider and try to make applicable to our own affairs. The constant struggle for competition is continually calling for new devices, new forces and stricter economy; while the demand for men, trained in special callings, was never so great as it is to-day. The success of the dairy industry is as dependent upon the thought, skill and intelligence which manages it, as any other business, and the rewards which have come to so many have only been reaped by judicious management and close attention to all the little details of the business.

The boy whose home is in the little hamlet of Zermat at the base of the Matterhorn in Switzerland, and who lives to reach the age of manhood without passing beyond the confines of that little valley, will have but a limited knowledge and appreciation of that which lies beyond. Shut in as he is on all sides by those immense mountains, whose heads are wrapped in eternal snow and whose dizzy heights seem to have entered the world above, mark for him the boundary of life that must from necessity be narrow and contracted. Within that small area there can be found but little that would stimulate the mind or induce a departure from the well beaten paths of those with whom he was daily associated. To him the hours of sunshine are far less than those that gild the peaks which mark the boundaries of his sphere of action. His world has been small, his views ever obstructed, and his social life dwarfed by the circumscribed field in which he has dwelt.

But let him start out on an exploring expedition and ascend the Matterhorn, and then note the change that instantly takes place in the expression of his eyes and his general demeanor as he discovers that the boundaries of his world grow larger as he mounts upward. Stimulated by the views which have opened up a broader field of vision in which he sees a new life, he again mounts upward and onward over the dangerous rocks and cliffs, impelled by that unseen force which can be appeased only by the accomplishment of the purpose sought. He has been oblivious to all dangers and to the efforts and fatigues required to reach the summit of 15,000 feet. He stands there unconscious of all these, as his eyes wander over a vast stretch of country upon the surface of which he discovers so much that is new and strange. Cities, villages, hamlets, lakes, rivers like silver bands, pass before his eyes as a living panorama, in the gleam of a sunshine far more beautiful than he has ever witnessed before. He stands there wondering why he has never made the attempt before, when there was so much that was only waiting the vaulting of ambition and the action of energy to become a part of that life which had heretofore been passed in such narrow limits.

Now I desire to impress upon the minds of all, the fact that if we are to get the most and best out of life, we must make the most of our opportunities. If the sphere in which we are living seems narrow and contracted, let us make an exploration and see if we cannot find some point from which we can get a broader view, that shall open up to us new thoughts and stimulate ambition to greater efforts.

ADDRESS OF WELCOME.

HON. GEO. W. SMITH.

Mr. Director, Ladies and Gentlemen.—I feel it a pleasure to perform the part assigned me in the exercises of this occasion. It has been made my pleasant duty to welcome all who take an interest in agricultural affairs to the discussions of the farmers' institute which is to be held there. In doing this, and in tendering the invitation of the managers, I am also permitted to speak on the general subject which this institute meets to consider.

From my point of view no assemblage of fellow citizens involves so much interest as those in which farmers and their families meet to consider the topics relating to that industry, which was the mother of civilization and which must always uphold it. Such assemblages betoken a renewed and larger devotion to farming pursuits. They are especially useful at a point when intelligent thought and discussion are demanded by many unfavorable conditions. To join in your exercises gives me personal satisfaction as a citizen. To my mind the annual festivals of the farmer are the most gratifying spectacles of the revolving year. I see in all the gatherings of the husbandman, housebandman, the name that speaks of the family gathered under the patriarchal headship, the best possibilities of human society.

In contemplating what may come from your labors and the culture—culture of the soil and social and family culture—considering the prosperity due to the men and women who dress and keep the gardens of the earth, and how you may make rural and farming life promote a general, social, moral and public welfare, all the artificial pageantry of other forms of life and achievement, all the glamour of luxury and the pomp of cities, fade away.

The tiller of the soil holds oldest, highest commission from the Almighty, and his order is potentially the noblest among men. He is the vice-gerent of God and nature in furnishing their bounties to the human family. Privileged orders are founded on the subjection, ignorance and fear of the weak, the lawgiver and the lawyer, unending labor in a corrupt sphere of selfish propensities and moral disorder. Physical calamities call for the science of the physician and surgeon. But the farmer is a co-worker with only the kindly elements and forces of nature, securing and improving her gifts for the preservation of the human race; the herald always of a beneficent message and never a parasite upon the labors of others. He levies no tribute except upon the consenting bosom of nature. The services of the classes are necessary, but they must be sustained by the labor of the farmer and paid for from the treasury which he fills from the soil. He is no man's oppressor; he abridges no man's fortune; he fills the tables of the nations, but takes no crust from the hand of penury; he, at least, does nothing to increase the sorrow of the poor. His work is wholly beneficent.

Seed-time and harvest, the permanent order of the seasons, the ever old and the ever new operation of natural forces, is to him a sure hope. Mother nature stretches forth continually her miracle-working wand and fills the hands of the diligent with plenty. Man's truest life and his most beneficent activities are found where plain and valley, hill and mountain, and heaven's exhilerating breath constantly invites him. In these conditions of life the best of the race have loved to dwell. Seymour, on his Deerfield farm; Silas Wright, on his modest farm at Canton, and Washington at Mount Vernon, show how our best men profess themselves native to the soil. There they nourished their highest faculties in contact with the bosom of nature and found there the great riches of supreme contentment. All minds may not be so full of recollections and resources for contemplation, but all healthy minds may lift their thoughts as high; they may cherish the same human sentiments—their regulated desires and the study of the true philosophy of their being may bring life to the same tranquil close. Compared with the Infinite, all distinctions disappear. All minds may look for a full moral development and for high mental enjoyment by the just use of their facilities, and the best minds have found a country life most congenial to their highest nature. In the country may be had the broadest appreciations of science and study to the essential concerns and first ideals of human life.

Am I planting another Eden? Yes, the best that the mass of mankind can enjoy; an Eden where there are no fruits forbidden to the rational sense; where the boons of generous nature are offered to her servants and votaries, and where science may gain from the natural environment of man its most valuable lesson.

By a diligence that all may devote to such studies, chemistry, botany, geology, zoology, may be read on the illuminated pages of the ever open book of nature, if the farmer and his family will open their eyes to their revelations. The time so often spent in reading barren fictions, imbibing the poisonous swash of literary gutters, in pouring over the nauseous details of the criminal calendar and in various gossip, and which constitute so large a part of the reading of to-day, is sufficient to render familiar the facts and privileges of the most interesting departments of scientific knowledge. Within the scope of the farmer's observations are a multitude of object lessons to verify scientific theory learned in schools, and all these have an intimate relation to the life and pursuits of every farmer who keeps in view his highest estate and most desirable object in life. It is not wholly fanciful to say that his domain beneath him, to the center of the earth and upward to unbounded space, is related to his home. In a large sense all this is his own. The constellations—the Bear, in his nightly round about the pole; the Pleiades, Orion, old Bootes, Aquarius, the Water Bearer, the Milky Way—all may be regarded as celestial neighbors and as the eternal sentinels and wardens of the farmer's visible realm. If this be ideal only, we may reflect that our highest and most endearing satisfactions exist in the ideal world, and if material pursuits can have an improving outlook and be invested with the halo of imagination born of a natural contact with surrounding nature, they may on that account rank highest in our regard.

The highest truth in the mental and moral world is that which leads to the highest conception of life and to the highest of its rational enjoyments. But the healthy ambition of our people is being perverted to unworthy objects and to a strife for infrequent prizes, which, when gained, are often not worth the winning. A vast material development—the opening of so many sources of wealth—is corrupting our manhood by a degenerate mania for ease and luxury. By a deplorable reversal of just ideas, our young men think a petty office, a clerkship in a store, professions, living from hand to mouth on popular caprice—the lives of parasites—something better than the lives of an independent farmer. To obtain wealth with the least exertion, and on the lines of least resistance—and those are the lines of invasion upon public and common rights, because they are always least defended—has become the chief ambition. The universal problem is how to get something for nothing, and criminal efforts to solve it have become a besetting national sin, and they are constantly wrecking the support of the social and business fabric. Excessive fortunes gained by the legalized pillage of the masses debauch the sobriety of public sentiment by a luxurious display; tribute levied by selfish cunning, by tottering all the products and means of industry, by engrossing in the hands of the few what God and nature meant for all;

trusts and monopolies that subject the whole people to the despotism of plutocracy, greedy syndicates that exhaust the treasury which the people must fill by their labor, have more completely subdued this country to the control of corporations, monopolies, trusts and favored classes than any other to be found under the sun. When I see eminent lawyers forging the legal chains that crush out competition, oppress the people and bind the government hopeless—I mean of trust companies against the public—I do not wonder that you will have no lawyers in your councils. When we see nine railroad companies enter into a conspiracy to oppress the poor by raising the cost of transporting coal, and by lessening the supply, a scheme which colossal aggregation of money repeats in every direction, there is reason for wonder at the general apathy.

When we see wealth amassed and entailed in perpetuity on corporations by the process of acquiring the natural highway passes of the country, and overrunning the limitations of the original grant by taxing production and consumption, by virtual laws passed in the parlors of conspiring railroad directors and presidents; when all the wealth-creating power discovered by science and the gifts of nature, which should inure to the benefit of mankind, are seized by monopolies and trusts and made servants of the money power; when it is seen that the myriad million hands of machinery, which, with its infinite capacity for multiplying products, and by the favor of the government has become the chief instrument for the creation of wealth, is wholly under the control of capital; when every pursuit other than farming, legitimate or illegitimate, honest or dishonest, is made lucrative; when agriculture, the base of civilization, is unprofitable, though still burdened by an unequal share of taxation, it is not surprising that young men desert a business discouraged by all the workings of our financial and national policy. What is to be expected from such an anarchy in the relations between productive labor and the distribution of products and of wealth?

The engrossing of wealth by the means alluded to, effected by the plundering of the interests in the commonwealth, the fact that certain uses of capital are made profitable by law and legislation, and while the owners of such capital have been enriched, the agricultural interests have been impoverished, shows a palpable and an ominous condition. There is in this more than a coincidence; there is a relation of cause and effect. The pomp of wealth and luxury flaunted in the face of the masses, who are tracing these effects to other causes, is giving an edge to their descendants. These and others, acting together, are leading to the decay of the most essential factors of our social, material and potential system and to serious dangers. The farming classes are at a crisis which calls for their active energies. They may rescue their fortunes from the growing peril. They may regain, if they so determine, the position which farmers formerly held in shaping the public policy of the country.

The first step toward regaining lost ground is for farmers to show their own sense of the innate dignity of agriculture and of their just position in the body, social and politic. That step you are wisely taking. Your enlarged intelligence will support it. The order of the day is not, "To your tents, O Israel," but a rally to your farms. They may be made the stronghold of a useful conservatism, and by your resolute stand they will hold the last anchor of the republic. The essential interests of the country, its safety and prosperity, will be most effectually maintained when the promotion of the agricultural interest is made the first and fundamental concern in national affairs. Where Douglas, the farmer, sits, should be the head of the table. The farming class are the sufficient guardians of their rights, and it is their fault if they do not check the adverse influences by which they are cajoled, overawed and overborne. They should not be content to be the stepchildren of the Government, quieted by the distribution of toy bags of seeds from the Agricultural Bureau. Their hands should more largely control the disposition of the national revenues, and be felt more decisively at the helm of State.

The agricultural class should not be content to pay a land tax, district school taxes, town, county and State taxes and indirect taxes for the support of the National Government—taxes constantly enhanced by favor to all interests except theirs—and still submit to the exemption lately accorded by the lawyer and the Federal Supreme Court to the recipients of large incomes. This anomaly of exemption, opposed to the example of the most enlightened governments, exempting those whose fortunes the Government must largely protect; exempting those who themselves make a grand levy upon labor and production of the nation, the farmers need not permit, unless such is their choice. If they so will, an income tax, the most just and equitable that can be imposed, can be made to equalize in some measure the public burdens. Lawyers, subsidized newspapers, Congressmen representing corporations, and all the forms of colossal wealth, thought it cruel to call on the possessors of annual incomes of from $5,000 to millions, to make returns, for fear they would be tempted to take a custom-house oath and make a perjured report, is their paid-for way of thinking an income tax is communistic, socialistic; the railing accusations that may be brought with equal justice against the most vital principles of democracy and of Christianity—cries always heard whenever the franchises of privileged classes are in question—always repeated when the claims of the commonalty are asserted against unjust vested interests.

The only privilege that our people should tolerate is the privilege of American citizenship, ennobled by equal rights and raised to grandeur by grasping its opportunities. The most essential support to our political and industrial system is to make farming the leading concern; to make farmers feel that it comprehends their highest interests as American citizens, and that it should engross, next to their country, all their attachments. When this sentiment pervades the great body of farmers, their pursuits can be made attractive to the young. Patriotic ideas and a consideration of the public welfare urge the farmer to the propagation of this sentiment. It was the old argument in England and America that the sea fisheries should be encouraged, as the nurseries for seamen, for commerce and the navy. We require still more the permanent attachment of intelligent farmers to agriculture in order to fill the ranks of our greatest industry, and when need comes, that their stalwart arms should uphold the flag of the Republic. Commercial republics and enfeebled monarchies have maintained a transient existence by a mercenary soldiery, but our country's strength lies in a citizen soldiery, ready to spring from the bosom of the earth to defend the land and the homes of their ancestors.

The alienation of our young men from the farm is a tendency towards national degeneracy. Nordau sees degeneracy in literary ideals and methods, in an over-refinement that abandons natural standards, to follow morbid and unwholesome conceits. Modern life is reduced in many ways to the worship of false gods. Our true nobility is discarded and contempt is felt by sons unworthy of their country for the traditions, the achievements and the sentiments that have made the grandeur of our nation. Our heiresses are paying from wealth, often illgotten, hundreds of millions to buy titles, often disreputable, from effeminate, worthless and base princelings, dukes, lords and counts, so that our wealthy houses have to begin a brisk sale of their daughters to the European nobility. It has become a large business, very lucrative to the purchasers. If the immense export duty, which the sellers seem willing to pay, was paid on this side of the water, Mr. Carlisle would not need to sell any more bonds.

How, then, shall the chief pursuit of the American Republic be made more attractive and satisfying? You better know how it must be managed for profit, but I will attempt some suggestions for making the farm a domain of beauty, a spot where mind and nature may work together to establish the best institution of civilization, the true American country home.

Let the farmer regard his acres and his home as supreme among secular things; let him plant them and improve them for himself and for his posterity. The old ambition to acquire a farm for children should be revived, and farming made a business to interest them and satisfy their views of life. Show them that it is an intellectual association, and that it affords a field for the exercise of the highest talent, and that the most interesting departments of knowledge may be made to lend scientific aid to its pursuit. Make the homestead an intellectual center. Have there familiar discourses, say, upon botany; lead the natural curiosity of youth to inquire into the cause of plant life; what elements crops draw from the earth and what from the atmosphere. Teach them the genesis of the useful plants and fruits; how grains have been derived from mere grasses; the numerous varieties of the apple from the crab; the peach from the stony almond; the potato from a bitter root; the cabbage from marine plants, and whence have come the valuable list of our fruits. Show them how the woods and the fields of the farm may furnish a living herbarium for study. Illustrate geology by the roots and soil of the farm, and find there the materials that built the earth and form the substance of the planets and the stars; by the limestone solidified from the carbonic acid that once prevaded the atmosphere; by the salt and gypsum formed by a process that fitted the earth for human habitation by the absorption of noxious gases; by the coal measures deposited from the giant vegetation of a former geological age and the stored-up heat of a primeval sun; by the clay and soil ground out by the slow, sure mills of the gods from the Archæan rocks.

Inquire, with your children, what chemistry shows by its inventory of the elements of the soil, its analysis of plants; how the soil is to be reinforced to promote their growth; learn what are the deficencies to be supplied and what excess is to be neutralized, and finally behold in the cultivated field a farmer's chemical laboratory. Expect that, finally, in the progress applying science to agriculture, electricity, the manifestation of the power of the infinite ether that fills all space, will be led to the roots of plants and become an effective agent for promoting vegetable growth.

Along with the homestead science observe the relations of the atmosphere to the growth of crops; how its oxygen, ammonia, nitrogen, like so many genii of the air, ministers to the work of production. How the leaves of the trees and plants, absorbing carbonic acid, give back oxygen, so that the trees that embellish the lawn and the flowers that adorn the garden, are not only a delight to the senses, but guardian sentinels that neutralize noxious elements. Study animal life—the habits of birds and insects—and discover which are destructive to crops and which assist in preserving them. Show how the bees and insect tribes carry the fructifying pollen from flower to flower and assist in the general production of parts and seeds. Using such materials, the farmer's family will become interested in the world thus made to open and expand around them. They will consult upon the method for bringing the farm to the highest point of fertility and productiveness. In the repose of the winter plans will be matured for improvements and for realizing new ideas when the spring again invites to new activity. Trees, the crowning glory of the landscape, are as beautiful on the farm as in the proudest park; useful, also, when evergreens are set for shelter against prevailing winds and deciduous trees are planted for shade in summer. All the varieties of the indigenous trees of the country side should cover unproductive heights and untillable spaces where they will grow to beauty and finally to profit. As trees are removed from the wooded preserves of the farm, if they are replaced by the walnut, the chestnut and the butternut, they will finally afford valuable timber, and certainly every boy who lives on the farm will appreciate their autumn treasures. Favorable exposures of rock and declivities should be clothed with the grapes which the climate will mature, and shelter spots may invite some of the exotic fruits native to a milder clime. A fruit tree once grown, pays, for generations, large interest upon its cost. To plant and care for a fruit tree is to endow a perpetual charity for posterity.

At every homestead one or more county newspapers should be preserved, with a leading newspaper of wider scope, and the best agricultural journal obtainable, and bound at the end of the year. The subjects of special value and interest should be indexed for reference. With these should be kept a family history and diary to which the family should contribute articles suggested by reading and observation the occurrence of events of general or local interest. Occurrences on the farm and subjects of domestic discourse, experiments, references to subjects in books likely to be of future use, and the like, should be given a place. Such records would give a charm to homestead life and they would become family archives, valuable beyond all price. Make the homestead the schoolhouse of the farm and the treasure-house of what relates to agriculture.

A greater variety in farming would add to its interest, and the failure of markets may compel the bringing of more land under the plow and a more systematic rotation of crops. The keeping of sheep, now neglected, will afford a fair profit, and for the utilizing of some localities and soils they are especially useful.

Bees are not often kept, but they afford some profit at little expense besides care, and they find their pasturage by foraging on the whole countryside. Plants and flowers, kept green by woman's fostering hand, make more than a mimic summer under the roof tree to mitigate the austerity of winter, and their general influence tends to cultivate a refined temper and a perpetual summer of the heart. The beautiful and the useful, spring from the kindred soils and the open heart, and the tasteful hand readily blends them together. The cultivation of fruit gives to the farm its most beautiful features. Such a source of pleasure and profit should more largely engage attention. The all-around farmer who utilizes all the resources of agriculture at his command will be most devoted to his business, and is likely in the future to be most successful.

This is to be a farm for the family, and for its children for generations, not for strangers. These trees will be planted to commemorate the birth of children, trees for fruit and for shade, thus the same living monuments will keep green the memory of departed kindred and symbolize at once the decay and the universal resurrection of life. With farms so ordered and made the objects of pleasant and rational attachments, the family will cling to the homestead and the farm. The grange will beget a rural sentiment and views of life and duty which will become growing influences with the sons and daughters of the family.

One of the limitations of the farmer's life, most irksome to the young, is the isolation and lack of social intercourse. The remedy may be found in neighborhood meetings, for readings and discussion, not only of subjects connected with farming, but for wider literary discourse. The home culture of each family, such as has been outlined, will prepare for this and extend its benefits to all, each in turn making contributions to the common stock. Social amenities may thus be blended with practical advantages. What each has learned may be made the possession of all. By such gatherings a social charm may be added to farming life and made to advance the status and promote the happiness of the whole community.

Such may be the true farmer's home, that best expression of the Germanic and English life and domestic genius. No other language has a word that fully translates its kindly authority, its generous equalities, its sweet charities, its domestic repose, its abiding satisfactions. Strength thus protects and cares for weakness. These grow up domestic charities, a sense of justice, an ordered discipline, and these are thence embodied in political and legal institutions. There is heard the commanding voice of the enlightened conscience. Thence faith looks to the sky. Thus social virtues and domestic culture sow the precious seeds of private integrity. Thus the love for family and home grows and broadens to a patriotic devotion to the commonwealth. Rural homes may be made the perennial fountains of a conservative force by which public spirit will be perpetually renewed. The forces that they exert may compel a just estimation of the position and rights of farmers as the great producing class and the final bulwark of the nation's safety.

County and town fairs, and the meetings of granges and institutes will fitly round out the circle of the farmer's life. The natural alliance between agriculture and science and the research connected with farming operations recommend their pursuits to the intellect, and they form the basis of a useful and noble culture. Such a domestic education will correct the shallow prejudice that ranks farming as less honorable than labor in the counting-house or office. The young, taught by precept and example the interest and dignity of farming, and that the physical vigor which it promotes and the personal independence which it secures are a great reward, will give to it their loyal devotion.

Let farmers consider the lessons of nature, and they will behold in their homesteads and fair domains the favored spots where all the elements work together to provide good gifts to man, to the abounding consummation of grasses and grains, flocks and herds, fruits and flowers, and to the supreme result of citizens industrious, robust, vigorous and enlightened, the best guardians of social, moral and civic order, and the abiding hope of the nation. Let them appreciate the fact that minds endowed with the love of knowledge and of nature may more happily combine the study of the physical sciences, and of natural history with the pursuit of their business, than is possible for any other vocation.

White's History of Selbourne shows what a fascinating charm may be found in rural life within the range of the farmer's observation, and how that little world is animate with natural life and action. His record of a single parish following the changing seasons, noting the dawn of spring and autumn's ripeness; his notes on bees and poultry, cattle and sheep; his accounts of rains and storms; the effect of trees on climate and humidity; the migration and return of birds; the effect of earth worms in improving the soil, and other details, show what delightful sources of instruction may be found in every neighborhood; and he says: "It is in zoology as in botany, all nature is so full that the district produces the greatest variety which is most examined." We follow him with pleased curiosity in his account of the tortoise as he hibernates and revives in the spring, of the cutting of the last of the oaks, and the taking of the last deer from the Wolmer forest, and in his chanting, "Tityn tu patulac recubaus sub tegmine fagi," to the echoes of the hillside, and in his comparison of the hop culture of Selbourne with the vineyards of Virgil. These may seem humble topics, but to these a scholar, philosopher and divine devoted his thoughts, and his history of that common life and its relation to that narrow world of a single parish has delighted generations of readers and made its author immortal.

It will be said that much of this sketch of the possibilities of the farmer's avocation is ideal and visionary. If this be true in some respects, it is also true that the ideal is the polestar of progress, and that the union of what was deemed visionary with practical effort has given birth to many useful improvements. The imagination has ever been the divine mother of science and of new acquisitions of knowledge. Nothing has been imagined in this discourse that may not be accomplished by the will and devotion of the farmers of our country.

The Benefit of Science to the Dairy.

Dr. L. L. Van Slyke.

In the entire history of the world, there has never been such fruitful activity in the various departments of science as have been witnessed within the last fifty years. In all this activity of research for knowledge, one point stands very prominently, and that is this: The new knowledge required by scientific investigation has been quickly seized upon and put at once to some practical use, which would benefit mankind. Indeed, very much study has had for its chief aim the discovery of facts that would be useful. In the general progress resulting to all arts, from the development and application of the different sciences dairying has had no small share. The last twenty-five years have witnessed many revolutions of ideas and methods in dairying; and some of the most far-reaching discoveries have been made within so short a period as the past five years.

It is my purpose, now, to call your attention briefly to some of the more striking ways in which dairying has been aided by such sciences as chemistry, physics, physiology, mechanics and botany.

HOW CHEMISTRY HAS AIDED DAIRYING.

First, let me consider in what ways the science of chemistry has benefited dairying. Chemistry studies the composition of milk and milk products; it tells us what milk, butter and cheese are made of. It was not many decades ago that the knowledge of the composition of milk was limited to this: Common observation led men to believe that milk contained three constituents; first, fat, from which butter was made; second, curd, formed by the souring of milk; and third, whey or serum, the liquid portion left after coagulating the curd. Our knowledge of what is in milk would never have progressed beyond these facts had it not been for the progress of the science of chemistry. How much more do we know at present about the composition of milk and its products, and of what practical advantage is this increased knowledge to the dairyman?

We know that milk contains water, fat, nitrogen compounds, sugar and other compounds called "salts." I wish briefly to consider the different compounds of milk and its products, and point out some of the specific ways in which dairying has been helped by your added knowledge.

WATER.

It might be supposed that the less we know about water in milk the better. In speaking about the various forms of adulteration of food, Artemus Ward once said that whatever might be true about adulterations of other foods, we could always be sure of milk, for we should always find its quality to be "of first water." It is this "first water" of milk that I want to speak of—the water the cow puts there. In 100 pounds of milk we shall find an average of 87 1-3 pounds of water, while some will contain only 85 pounds, and in some extreme cases, the variations will be even greater. Why does the amount of water put into milk by cows vary so much and of what practical importance is it, anyway? The amount of water usually contained in milk depends upon a variety of conditions, such as breed, individuality, stage of lactation, kind and quality of food, care, etc. Now, as to the practical bearings of this point: First, so long as milk is valued by its quantity alone, it is desirable for the dairyman to breed cows that will put as much water in their milk as the law allows—about 88 per cent.—and, in addition, to give an abundance of succulent foods. I am now discussing this question from the dairyman's standpoint, not from that of the consumer's. Second, when we consider the large proportion of water in milk, we must be impressed with the necessity of a pure and abundant water supply for cows. The amount of water in butter averages about 12 per cent., and in well-cured cheese 30 to 33 per cent.

MILK FAT.

Fat in milk, or milk fat, commonly called "butter fat," from a commercial standpoint, is the most valuable constituent in milk. In a diluted form milk fat is the foundation of cream, and in a more contracted form, of butter. I think it was Artemus Ward who said the best article he ever saw on milk was cream. I do not propose to consider here what milk fat consists of, further than to say that it is a mixture of a half a dozen or more peculiar compounds, about which much remains to be learned.

The amount of milk fat in 100 pounds of milk varies normally from three to eight or more pounds, but more commonly between three and five pounds; and averages about three and three-fourths pounds. One hundred pounds of butter contains about 80 to 85 pounds of fat and 100 pounds of cured cheese, 33 to 38 pounds of fat.

I wish particularly to call attention to the prominent part that milk fat plays in enabling us to determine the value of milk for various purposes. This practical application of our knowledge of the composition of milk is one of the more recent and far-reaching of the results of scientific inquiry. First, the amount of fat in milk enables us to tell, within narrow limits, how much butter can be made from milk. Time does not permit me to go into details to show the reason, but much investigation has demonstrated the fact that for each pound of fat in milk one should make about one and one-eighth pounds or one pound two ounces of butter. To find out how much butter should be made from 100 pounds of milk, multiply the per cent. of fat in milk by one and one-eighth. For example: From 100 pounds of milk containing 3 per cent. of fat, we should make about three pounds six ounces of butter; from 100 pounds of milk containing 4 per cent. of fat, four and one-half pounds of butter; from 100 pounds of 5 per cent. milk, five pounds ten ounces of butter, etc. Suppose, in making butter, we get more or less than the calculated yield, how shall we explain this? If less than the calculated amount of butter is made, the decrease must be due to one or both of two causes. First, excessive loss of fat in skim-milk and buttermilk; and second, the working or pressing out of too much water. If more butter is made than the rule calls for, then it is due to the fact that more than a fair amount of moisture has been left in the butter, caused by unfavorable conditions of churning or by insufficient working. These facts enable the butter-maker to find out whether he is making mistakes in his work, and whether he is getting the best results in butter yield.

There is another important application of the fact that milk should yield butter very nearly in proportion to the amount of fat it contains; milk producers who sell their milk to consumers should receive pay not alone according to the amount of milk furnished but according to the amount of fat furnished, for it is milk fat that makes butter.

Again, much the same principle applies to cheese as to butter, as far as concerns the relation of milk fat to cheese yield; for it has been proved beyond reasonable doubt that the amount of cheese that can be made from milk is, for all practical purposes, in proportion to the amount of fat in the milk. On an average there should be made about two and seven-tenths pounds of green cheese for each pound of butter fat in milk. Hence it is fair to pay for milk at cheese factories only on the basis of its fat contents.

These facts, recently demonstrated beyond question, give the dairyman a working basis upon which to build, such as he has never had before. The dairyman of the future, who produces milk for butter or cheese, and who labors for the highest success, will aim to produce, not quantity of milk but quantity of butter fat. Science has also demonstrated the fact that the production of a pound of milk fat costs less in rich milk than in poor milk, and hence the future aim must be to produce milk richer in fat, if large money returns are to be secured.

It is important to keep in mind that it is not alone richness in fat that we must have, but also quantity of milk fat. We must then aim to produce an abundance of milk rich in fat. The cows that can accomplish this result must be obtained by a nice combination of breeding, feeding, care, etc.

In this connection, what does science tell us in regard to the influence of food upon the production of milk fat? Does the milk fat come normally from the fat in the foods or from the albuminoid food? And, can we, by increasing any of these food constituents, increase the per cent. of fat in milk? We must allow that it is still an unsettled question as to what are the ordinary food sources of milk fat. However, this question may be settled in the end, and the practical one depending on it can be answered with somewhat less doubt; while experiments, relating to the increase of fat in milk give contradictory results, we may say that according to present knowledge, there is no practical economical way of increasing the per cent. of fat in cow's milk. I do not mean to be understood as saying it is impossible, under any conditions, to increase the per cent. of fat in milk, for, under certain artificial conditions, this may be done, but never in an economical way. We can influence the composition of milk fat by food so as to produce a harder or softer butter, but this is quite another question. So long as we feed good foods most economically, we need not expect by any ordinary change of food constitutents to influence appreciably the per cent. of fat in milk. The power of producing milk richer in fat must be more a matter of breeding supplemented by wise feeding. Neglect of either will end in failure. There are several questions connected with milk fat which I will touch upon later.

NITROGEN COMPOUNDS.

The nitrogen compounds form an important class of compounds found in milk. In composition they are characterized by containing the element nitrogen combined with various other elements. It is common to speak of casein as the only nitrogen compound in milk. Casein is the most abundant of these compounds, but there are also two others—albumen and albuminoise. Casein is that portion of the milk that coagulates when the milk sours or when rennet is added. Albumen is like the white of an egg; it is not coagulated by rennet and acids but by heat. The third nitrogen compound of milk, albuminoise, is not coagulated at all by ordinary means.

One hundred pounds of milk contains from less than two to over five pounds of casein, with an average of two and one-half pounds; from about one-fourth to one-half pounds of albumen, with an average of one-third pound, and about the same amount of albuminoise. Casein is not only the most abundant but the most important of the nitrogen compounds of milk. The fact that casein can be coagulated by rennet lies at the basis of the great industry of cheese-making. A recent investigation, still unfinished, which we have been making at Geneva, reveals the fact that rennet acts in a very different manner on the milk of different cows, and that the action of rennet can be greatly hastened or retarded by the addition of various substances. The question has been raised whether we could not hold in cheese all the nitrogen compounds of milk and so increase the yield of cheese. It would be possible, but not practical, to retain the albumen but not the albuminoise. In other words, we could not at best expect to retain over one-third of a pound more than we now do.

When the casein of milk is precipitated by acids, it can be pressed and dried, forming a substance of great hardness, which can be used for buttons, knife handles, or anything usually made of bone or ivory.

MILK SUGAR.

One hundred pounds of milk contains about five pounds of milk sugar. This is somewhat less soluble in water than common sugar and is less sweet. It has, within the last few years, become quite an extensive article of commerce and promises to be one still more useful in the future.

ASH.

Ash is a mineral compound of milk. If we evaporate and burn 100 pounds of milk until it burns no longer, we have left about three-fourths of a pound of gray ash, which contains such elements as phosphorus, potassium, sodium, calcium, etc. In milk these elements are present in the form of such compounds as potassium, calcium, citrate, etc.

FEED AND FEEDING.

I desire, very briefly, to point out what science has done for dairying, in helping the producer of milk to feed his animals with greater intelligence and economy. We have learned that three classes of foods are essential to the growth of animals. One class, called albuminoids or proteids, is used in the body to repair the wasted muscular and nervous tissues. The white of an egg, the casein of milk, the lean of meat, the sticky portion of moistened wheat flour represent this class. The next class consists of fats and oils which furnish material for fat formation in the body, and also for heat to maintain the temperature of the body. The third class is called carbohydrates and contains such substances as starch, sugar, etc., whose chief duty is to furnish heat for the body. Science has further demonstrated that the most economical results can be secured by combining these three food constituents in certain proportions; and, further, that of two foods having much the same composition and costing the same price, one may be cheaper than the other, from the fact that the animal can utilize more of it. In other words, because it is more digestible. Further, these different forms of food constituents can be purchased at greatly different prices. For example: I can furnish for myself albuminoids in the form of raw oysters for about thirty cents a pound, or I can secure the same amount of digestible albuminoids in cured cheese for three cents. The same principle holds true in feeding a cow. I can feed fat to cows in the form of milk fat, worth twenty-five cents per pound, or in the form of oil contained in some meals for two and one-half cents per pound. We can feed a cow for thirty cents a day and we can also feed a cow for fifteen cents a day, and in both cases secure the same amount and value of product. Further, some foods have much greater fertilizing value than others, and we must, in feeding, consider both the feeding and the fertilizing values.

Science teaches, then, that the matter of feeding animals is not a simple, but a complicated subject; that we must supply the proper proportion of food constituents in the most digestible and economical form, if we would secure the best and most profitable results.

CARE.

Science has also proved that dairy animals must, in addition to good food, have pure water and invariably kind care, freedom from exposure and the best hygienic conditions possible. Upon these points I need not dwell. I wish now, in hasty review, to speak of some of the benefits that science has contributed to dairying by the improvement of the operations of dairy manufacturers.

CHURNING.

It was only a short time ago that churns were made so as to agitate the cream in a very violent manner, on the supposition that the fat globules were inclosed in sacs which must be ruptured. But it has been shown that fat globules are not surrounded by any sacs and that the less violence in churning the better results can be obtained in both quantity and quality of butter. Hence, there came a revolution in the kind of churns used. I need simply refer to the quite recent developments pertaining to the churning of cream at low temperatures and the diminution of the loss of fat.

CREAMING.

In the operation of separating cream from milk, we have probably come very near perfection. The application of centrifugal machines to the creaming of milk was unknown and probably undreamed of twenty-five years ago. Only twenty years ago Lefeldt first made a machine that would work at all. Within ten years has come the hand centrifugal, and within five years the butter extractor and accumulator.

METHODS OF TESTING MILK.

If I was to point to any one contribution of science that forms a greater epoch in the general progress of dairying than any other, I would single out the Babcock method of milk-testing. This has placed within the reach of every dairyman the means of finding out his mistakes; it has made possible for every dairyman the carrying on of independent investigation; it renders the dairyman capable of acting in his own defense; it gives a working basis, a guide, a final arbiter of success; it makes possible the carrying out of these changes which science has suggested in regard to methods of paying for milk; it marks the beginning of a new era for milk production. I am proud of the fact that this method was devised by an American, and, moreover, by a New Yorker.

DETECTIONS OF ADULTERATIONS IN MILK AND ITS PRODUCTS.

Again, science has made it possible to detect adulterations; to distinguish watered or skimmed milk; to tell oleomargarine from butter; to identify filled and skim-milk cheese; in general to furnish protection for honest dairymen and for consumers of dairy products.

DISCOVERIES IN BACTERIOLOGY.

The branch of science which promises most for the future improvement of dairying in its manufacturing operation is that known as bacteriology. This science has been developed almost within the last twenty-five years, and its practical application to dairying has been successfully made only within the last five years or less.

Our ancestors, some centuries ago, peopled the air, earth and water with imaginable beings, which were supposed to exercise influence for good or evil in every department of human affairs. These beings brought good or ill-health; abundant or scanty harvests; prosperity or adversity; happiness or woe, etc. The revelations of the microscope have, in recent times, realized in a modified form some of the beliefs of our ancestors. There really are beings all about us, upon us and within us, which exercise much influence upon us in various ways, but they are bodily, not spiritual. These beings are so minute that we can not see them with the unaided eye. Several thousands of them placed in a line would only reach an inch. To these beings we give the common name of "germs" or "micro-organisms," and a large number of them we call "bacteria." These are, in reality, the smallest imaginable kind of plants. Some of them produce dread disease, such as consumption, diphtheria, small-pox, etc. Others are harmless to human beings. Some are most friendly to the dairyman, and promise to help him in very many ways; others are among his greatest enemies. The souring of milk, the ripening of cream and cheese are among the more common results of bacteria. Time does not permit me to go into greater detail in regard to these wonderful plants, but I desire, in a little more detail, to show how they do greatly benefit dairying. The flavor of butter, whether it be good or bad, is due to the presence of bacteria. Now, if we can shut out those kinds which produce undesirable flavors and cultivate more intimately the friendship of those kinds which produce desirable flavors, then we have under our control the most difficult step in butter-making. This has actually been accomplished, and there is now on the market at least one kind of bacteria that is finding extensive and successful use in butter-making. The time may not be far distant when we shall have distinct brands of butter, each famous for its own peculiar flavor, produced by special kinds of bacteria. The same is true of cheese, except, perhaps, in an even greater degree. We have already at the Geneva station successfully used pure cultures of bacteria in making cheese. Perhaps we may succeed in going one step farther in butter-making, and, instead of purchasing bacteria, obtain the pure compounds that produce the flavor. In that case, we need only to make a butter entirely destitute of flavor and add desired flavor, just as we do coloring matter.

Science has further taught us how we may conquer the bacteria that works mischief in the dairy, producing all kinds of tainted milk with the resulting bad butter and cheese. The great foes of such bacteria are pure air, sunlight and cleanliness.

In taking for discussion a subject so broad as that upon which I have been speaking, the limit of time requires rapid, superficial treatment, and there is more reason for being impressed with the great amount left unsaid than with that which has been spoken.

I wish in conclusion to make a few statements which may impress us more fully with the benefits that come to dairying from the investigation and application of science. I wish to present some figures that will show in dollars and cents how science can benefit dairying.

There are in this State about 1,500,000 cows. Suppose they were used solely for butter-making? How much money could be saved in the aggregate in one year by using the latest methods in creaming and churning? The increased yield in butter yield would not be less than 20,000,000 pounds, having a value of $5,000,000, an amount of money which under old methods is lost.

Again, no one can question the statement that it would be possible by scientific feeding to save one cent a day for each cow in this State. This means $15,000 every twenty-four hours, $450,000 every month, over $5,000,000 a year. It is highly probable that several times this amount could be saved simply by the application of the teachings of science to the feeding of our dairy animals. Again, the average yearly milk yield of our cows does not exceed 3,000 pounds each. It is entirely within the easy possibilities of dairying to increase this amount to 4,000 pounds within ten years. That means an annual aggregate increased production of 15,000,000 pounds. In fertilizing value the annual milk production of our State is not less than $5,000,000 or $6,000,000, and the feeding value of an equivalent amount of skim-milk worth as much more. It can readily be seen that farmers who sell their milk are sending from their farms values which they commonly lose sight of.

The foregoing estimates are conservative. Others of no less striking importance could be presented. These suffice to illustrate the fact that science in its application to human needs is a synonym for economy, and that means increased prosperity and happiness in whatever line of industry it touches.

The Profession of Agriculture.

Herbert C. Churchill.

Success in agriculture, as well as in other so-called professions, depends almost entirely upon the scientific knowledge one has. It is a common saying, "That anyone can be a farmer," but while this might have been true once, experience has taught that it is not true to-day. In the early days in this country, colonists who came over from England had no way of getting the necessities of life but by hunting, fishing and tilling the soil. The latter was the most common; for, at that time, very little work was required except the sowing of the seed and the gathering of the crop to get an abundant harvest from the fertile soil. Consequently, agriculture came to be the leading industry, and farmers were among the principal men of that time. Indeed, the farm furnished many of the men who filled such prominent positions in the history of our country.

Since their time, machine after machine has been invented, each of which is of use to some branch of agriculture; but, in spite of this fact, to-day it is the cry all over the land that agriculture does not pay. Boys and girls are constantly leaving the farm to seek for something better, and many of the best farms are being sold at very low prices.

What is the cause of this? Why, if agriculture proved a profitable industry in the past when no machines to help the farmer were known, does the farmer of to-day condemn it? Ask the farmer why, and he will tell you that, as a result of competition, he has to sell his produce at whatever price the buyer sees fit to offer him, a price generally so low that when he applies the proceeds to the purchase of the necessities of life, where prices are in the control of the seller or under that of a monopoly, he has nothing left, if, indeed, he has enough to cover it. Is this not true? Indeed it is. But it is not, as many seem to suppose, the only reason why agriculture is dropping behind. We may look for another cause of agricultural depression in the exhaustion of soil. It is a well-known fact that each kind of grain or vegetable grown takes from the soil certain elements which are necessary to the growth of that particular grain or vegetable. What, then, would result if a certain grain were raised on land year after year and nothing were put back? Would not that land lose the elements necessary to the growth of the grain, so that it could be raised there no longer? Ever since the dawn of this industry in our country grain has been shipped across the ocean to foreign countries, and the elements of the soil necessary for growing grain have been thus literally shipped to foreign countries, and it has become impossible to raise good crops, unless those elements are in some way put back into the land. Hence, the importance of the farmers knowing the value of the different fertilizers, and of being able to put back on the land whatever has been taken from it.

Another great cause is close competition. Large tracts of Government land have, at different times, been opened in the West and sold at very low prices. This, together with cheap ocean and railroad rates, has stimulated European peasants to come to this country, untaxed, and enter into competition with Eastern farmers, whose farms represent capital of thousands of dollars, and who are taxed heavily on their capital. Besides this, the new land in nearly all cases brings forth as large crops with but little work as did the land of the early settlers, while the land of the Eastern farmers has grown produce for many years, and, therefore, requires much more work. Then, too, there is the average farmer's ignorance of business; or, if not his ignorance, his neglect of it. Very few could tell you to-day, if you ask them, exactly how they came out last year, whether they gained or lost. If they are losing, they don't know where the losing began, and so could not stop it, or see where the trouble is.

And, again, the farmer does not think enough. In the time of the colonists, when a little work brought forth large profits, very little thought was necessary as to how the work could best be done, and so, as a result, farmers learned to use their muscles more than their brains, and those who could, and wished to use their brains to any great degree, thinking that agriculture offered no opportunity for it, followed other occupations. And thus it is to-day, as then, farmers are not thinkers. Many of them are still going on in the old-fashioned way, doing just as their fathers did. Their fathers were not educated, and they need not be. They know more about farming than the agricultural colleges, so what's the use of going to the colleges? They don't want any of your scientific farming. Still, "farming doesn't pay." But they have to make a living, and so. if possible, make it pay. So they work on harder and harder, doing nearly two days' work in one, until they are in no condition to think, and, finally, when they ought to be in the prime of life, they find themselves completely broken down.

Yes, the successful farmer must think. He must cease some of the toil with the muscle and toil more with the brain. He must study his business and manage it as other men manage theirs, and he must be economical and thorough, always aiming to excel. Then as he uses his brain it becomes more and more developed and he becomes more and more competent to solve the many problems that come in his way. He knows just how his business stands and lives accordingly. He lives not for work alone, but for pleasure as well, for agriculture, as a profession, can be made to yield pleasure as well as profit.

But, you may ask, "why call agriculture a profession?" Let me in turn ask you why not call it a profession? Agriculture, the same as any occupation, becomes a profession when it is based upon scientific principles. The time has come when it must be lifted out of the rut in which it has been so long confined, into the level track of scientific knowledge, along which the more commonly called professions have long been traveling.

Many of you are in the habit of thinking that the dull boys and girls must stay on the farm, while the bright ones go into other professions, but this is an altogether wrong idea. To succeed, agriculture must be carried on by the most intelligent persons. Let the duller ones, if you please, aim to fill any position in life except that of farming. But how are the intelligent boys and girls to be kept on the farm? Before answering this, let us consider why they are inclined to leave it. Such boys have a desire for more knowledge and less drudgery. They see other boys growing up who will probably in the future fill positions of influence, and they long to occupy just such positions. Such girls see that, as wives of the typical farmers, there are no prospects ahead brighter than those of toil, while other women, who are really no better, are occupying positions whose cares are less burdensome and whose pleasures are more abundant.

Who can wonder that the farm is thus abandoned? If boys and girls are to be kept on the farm, there must be some inducements about it that inspires them to love it more, and show them its many advantages, instead of its many disadvantages. They must be taught that they are not obliged to become doctors or lawyers or bankers in order to use their intelligence. They can find plenty of use for it in farming, and the proper use of it will not be without its rewards. Then, when agriculture is thus backed by the best intelligence of the country, deeply interested in, and thoroughly trained for the work, then, and not till then, will it be raised to the level of other professions.

Hygiene on the Farm.

Dr. A. D. Lake.

Mr. Director, Ladies and Gentlemen.—During the past few years no branch of science has made more rapid advancement than that known as preventive medicine. I may say here that the word medicine, in this connection, does not refer to drugs, but rather to sanitary regulations as applied to the proper construction and situation of dwellings, to the establishment of municipal health authority and better understanding of the importance of personal hygiene.

A vast system of national and State hygiene has grown up in this country. as well as in all other civilized countries. Every city, every town has its health board and health officer. In every large town sanitary inspectors have become established as a part of the municipal official system, and house to house visitations, with a thorough examination into the entire sanitary surroundings of each household, is now required. All of these modern innovations upon the ancient liberties of the citizens have borne abundant fruit in increased healthfulness, in the restriction of epidemics and in the prolongation of human life.

The great improvement upon former conditions which has followed the enforcement of these regulations in cities and towns in the prevention of the so-called filth diseases has nearly, if not quite, reversed the former state of things when the rural districts were considered the most healthful. Although there is no demand, among farmers, for the complex and intricate system of sanitary regulations required by the dense population of cities, yet it is evident that the healthfulness and happiness of the people would be largely increased by the application of some of the well established rules of hygiene. It is the object of this paper to bring in review before you, so far as the writer's means of information and the time at his command will permit, some of what appears to be the demanded reforms in this direction.

It is a fact, known to all, that throughout the whole country typhoid fever is one of the most common acute disorders. Upon the hillsides, in the valleys, in apparently the most healthful localities, among the rich, the poor, everywhere is found this deadly foe of human life. This is the leading representative of the filth disease. It is believed that by the proper enforcement of well-established and well understood sanitary precautions this disease could be as thoroughly eradicated as is small-pox. It is true that if the germs of typhoid find their way into the soil and there come in contact with decaying animal matter and moisture, the result of this contact will be the increase of these germs to an unlimited extent. The result of this increase will be the saturation of the soil therewith, and a consequent pollution of waters of nearby wells and watercourses, with the resulting affection of all who use these waters.

This is only an illustration of several affections wherein the disease producing germ finds the necessary conditions for its life and increase in a soil saturated with the excreta of men and animals. In this connection I invite your attention to one of the most important questions affecting the healthfulness of the homestead, viz., the water supply. The ordinary well placed near the house, and often very near the outhouses, frequently contains soakage from soils saturated with filth without giving evidence of such contamination by either taste or smell. Under ordinary circumstances such water may be drunk with impunity; but, given a case of typhoid fever or cholera in a family, let the excreta of the patient be thrown on to the ground, or into a mass of filth near the well, in time the soil will become filled with the bacilli of this disease, which, finding their way into the well, will seriously endanger, for an indefinite length of time, all who drink therefrom. Instances without number are on record where epidemics of these diseases have thus arisen.

A well is a drain, probably drawing from the soil in all directions a distance equal to its depth. The water is comparatively safe in new localities and in thinly settled districts, but grows less safe, year by year, as population increases and soil saturation occurs and the soil loses its power of purification by filtration.

It is a common experience in cities and villages where the water supply was formerly obtained from wells, with frequent epidemics of typhoid fever, to have this disease almost entirely disappear with the disuse of wells, the water being brought from a distance by gravity or other system.

In all localities, just in the proportion as the disuse of sewerage contaminated water takes place, does the death rates from typhoid decrease. It is unquestionably true that were it possible to obtain accurate statistics throughout the rural districts we should find the death rate from this disease, according to the population, to be greater in the country than in the cities of the State. Our wells in many instances have become disease distributing centers. In many localities in western New York the hillsides are full of never-failing springs of pure and wholesome water, situated in most of instances far from any source of contamination. These should be brought to the houses of the farmers. Often, by concerted action, the expense of doing this may be made light upon each individual. A reservoir collecting together the production of a number of these springs may be made to supply an extensive district. Such sources furnish the purest natural water known, generally so far free from mineral matter as to be fitted for all laundry purposes, and thus situated does away with any danger from the admixture of organic substances. If stored in large quantity the possible existence of algæ, or fresh water sponges, may at times give rise to offensive taste or odor; but there are means readily at command whereby these may be avoided. Water obtained in this manner affords to all who participate in the enterprise an opportunity for baths. closets and added fire protection. A further extension of its uses will add to the value of lands by devoting the surplus to irrigation purposes. If the situation is such that water must be procured from wells it is important that they should be located in relation to dwellings in such manner as to guard against defilement. In most of instances they could be placed at a distance, the water pumped by aid of a windmill and brought to the desired points. The added expense will be more than compensated for by the convenience and safety which will ensue.

Next to the water supply the most important question connected with proper sanitation is that of the disposal of sewage. I need not remind you that in too many instances, not only among farmers, but among people generally, this matter is entirely ignored. The slops from the kitchen are thrown out the backdoor, the contents of vaults are allowed to accumulate for months, the drainage from the barn-yard is allowed to take its own course, regardless of the fact in many instances that the source of its filthy supply is above the dwelling-house or well. All over the country the odor from decomposing whey betrays the existence of the cheese factory long before the traveler comes in sight of the building.

One of the most important sanitary questions is involved in the problem of how to dispose of decomposing animal matter in such a manner as shall make our habitation, in either city or country, safe from the results which inevitably follow its accumulation in masses or its improper diffusion throughout the soil. In the consideration of this important question it is to be borne in mind that fresh sewage contains a large amount of dead organic matter in complex forms of combination. If these complex forms can be decomposed and recombined into simpler forms, such as nitrates, ammonia salts, etc., in which the combined nitrogen is in a form suitable for fertilizers, the offensive matter will then not only become inert as far as its disease-producing properties are concerned, but is converted into a most useful agent. This very result is brought about by natural processes, viz., by the action of bacteria, those invisible organisms which commence their short span of life as soon as the vital spark expires in animal and vegetable bodies. It is sufficient for our purpose to divide these bacteria into two forms: 1. Those which thrive best when free oxygen is present. 2. Those which thrive best when there is little or no free oxygen present. The latter class do not effect the decomposition of animal matter into simpler salts, which are safe and useful, but produces substances which are more complex; more dangerous to health and more offensive to the sense of smell than are the products of those which grow best in an abundance of free oxygen. Therefore, the growth of this form of bacteria should be encouraged as much as possible. A system of sewage disposal based upon this theory has grown up to a large extent in Germany, wherein the sewage of large towns has been carried to distant points and used with safety and economy for the fertilization of large tracts of land. This is accomplished by a system of subsurface irrigation, the sewage being conveyed to the point of distribution through iron pipe or vitrified tile. When this point is reached porous drainage pipe is used wherein the contents are brought into intimate contact with the oxygen of the air, thus furnishing the necessary nidus for the growth of those bacteria whose existence is so essential for the conversion of these noxious matters into those elements demanded in plant growth. It would not be difficult to adopt this plan on a smaller scale to the use of every householder who has land which he desires to fertilize. Extending from the dwelling, barns and other outbuildings, there should run a main sewer pipe of sufficient capacity to contain all sewage which at any time is to be disposed of. This main pipe should discharge its contents into a system of smaller porous drain tile, laid in rows at a short distance apart, and located either in that portion of the farm which most needs fertilization or most needs drainage. The plan suggested will serve a double purpose, as it will not only add to productiveness, but will relieve the soil of its superabundance of moisture. This, or some other plan which may possess superior advantages, should be in existence on every farm. The so-called pure country air cannot antidote the ill-effect of decaying animal and vegetable matter scattered about dwellings and outbuildings; and, moreover, it should not be forgotten that whatever of antiseptic properties the virgin soil may possess, it speedily loses this property by supersaturation with organic matter. If sewage be given to the soil in a small quantity it will, as stated above, be changed into innoxious, even useful, elements. If left to decompose in masses, or if contained in too large amounts in the soil, it will constantly become a greater menace to the health of those who may come in contact with it.

In the further consideration of the subject of this paper we come to the question of ventilation. Even with the present advanced knowledge of the sanitary importance of ventilation it is to be feared that in the country very little attention is given to the construction of dwellings which shall insure at all times pure air to the inmates. Many people inhale an impure air continually for long periods of time without apparent ill effects. This is especially true if the atmosphere is cool and free from moisture. A considerable length of time generally ensues before the bad results which follow the breathing of air deficient in oxygen and contaminated with animal exhalation are seen or felt. In numerous instances mysterious condition—shown in impaired nutrition, want of physical and nervous force, sleeplessness, and a decided tendency to certain forms of disease—are due to this cause. Because of the fact that the evil results of breathing bad air are slow in making their appearance accounts for the circumstance that the seven by nine bedroom has still an existence, and at least during six months of the year no fresh air from the outside reaches it during the night-time. The bugbear, "fear of catching cold," prevents the raising of the window, and the sleeper breathes an atmosphere which in a very few hours is terribly vitiated and he certainly pays the penalty in impaired health. Every sleeping apartment should at all times allow free ingress of the outside air, guarding, of course, against draughts; at the same time it should not be forgotten that means should be provided for the escape of the air which has become overcharged with carbonic acid gas and other deleterious substances. I need not remind you of the great importance of pure air about the dairy and the great injury done to the products of this department by a contaminated atmosphere. Butter and cheese, like all animal matter, are exceedingly prone to fermentation and subsequent decomposition. Both of these products are to a large extent susceptible of absorbing from the surrounding air any noxious elements existing therein. If the atmosphere of the apartment in which they are manufactured is not made free from such offensive matters an inferior article results. Moreover, the incorporation of bacteria will hasten decomposition of the whole mass to which it finds access, so that butter apparently pure and sweet when first made, if kept a few days, decidedly changes its character in this respect and must be relegated to the grease-tub. It has been repeatedly demonstrated that the man who obtains the best price and the most certain market for his dairy products, is he who manufactures them from the milk of healthy cows, with clean hands and clean utensils, and in a pure atmosphere.

For some time past much attention has been given to the prevalence of tuberculosis among cattle. It has been clearly established that the affection is much more extensive than formerly supposed. It has been demonstrated that the disease is contagious. It is to be believed that the keeping of herds in hot and ill-ventilated stables is an important factor in the production and, certainly, in the contagiousness of this dangerous and fatal ailment. It is not to be disputed that warm stables in our cold and changeable winters afford certain advantages, principally in the saving of heat-producing foods; but given an underground stable with thick walls impervious to air, with a few small windows at the top and no opening near the floor, therein confine, as is often done, a number of animals entirely out of proportion to the breathing space provided and you have conditions decidedly unfavorable to the good health of cattle. If they are milk-givers the product will, unquestionably, be impaired. The danger of this is very much increased by the habit which many farmers have of turning out in the yard a part of the day, when the cattle are allowed to stand for hours after drinking ice cold water. There is no question as to the necessity and importance of moderate exercise, but it would seem proper that it should be of short duration and in the warmer part of the day; and especially the exposure should bear some relation to the condition of warmth to which the cattle have been accustomed within their stables.

In conclusion, I need not remind you that pure water, effective sewerage and a wholesome atmosphere are necessary for continued healthy existence. When we fail to supply these to ourselves and our animals we pay the penalty in loss of money, health and life.

Some Matters of Interest to the Dairy Farmer.

GEORGE A. SMITH.

The subject, "Matters of Interest to the Dairy Farmer," might be taken up in several different lines, and each of them be appropriate, as far as his business is concerned. The last few years it has been difficult to tell which branch of farm work gave the most encouragement of profit, but the subject that I will take up to-day is on the line of the dairy.

It is only a few years since that this was one of the most profitable branches of farming in New York State, but now the farmer says he cannot live at the business, the prices are so low, and yet prices are better than they were before the civil war, when farms were bought and paid for from the receipts of the dairy. It would seem from this fact that there was some other trouble beside the price, and I think the older farmers could tell us something about the changed conditions if they would.

In those early days the ways of living were very different from what they are at present. Very little money was paid out for living expenses, and what money was received went to pay for the farm. To-day it is very different. The high prices that prevailed during the war times brought about changed conditions on the farm. The milk, instead of being worked up at home and the product sold at the close of the season, was taken to the cheese factory or creamery, and manufactured and sold and the proceeds paid to the farmer every month. This gave him plenty of money in his pocket. He saw other people living on the "top shelf," as the saying is, and could not see any reason why he should not do the same thing. This worked all right while the high prices lasted, but when the lower prices came he wanted to continue to live the same way, but he now finds when the end of the season comes that his money is all used up and he has nothing left to pay his debts. He argues at once that he must have a return of the war prices; that is true if he is to do business the same as he has in the past.

I have a question that was given me a few days ago at an Institute which I will read, and from that we can form some idea of the problem that confronts the dairy farmer to-day: "Assuming that the average cow produces 3,500 pounds of milk of average quality per annum; that hay is worth ten dollars per ton, cornmeal fifteen dollars per ton, shorts thirteen dollars per ton, pasturing twenty-five cents per week and labor one dollar per day, what will be the cost per pound of the butter or cheese made from the milk?"

We will commence with the first of January to keep our cow and feed her hay and some grain. May 20th is as early a date as we can figure to have pasture in the dairy sections. This would be 140 days to keep the cow on dry food. It has been found by a large number of tests — weighing the food and the animal—that it requires on an average about twenty-four pounds of dry matter, containing about two and one-half pounds of digestible blood-forming elements, 12.5 pounds starch and sugar, and .05 pounds of fat, for the food of support, a relative proportion of one part of blood-forming elements to five and four-tenths of the heat and fat formers, to keep the animal without gain or loss under ordinary conditions. Twenty-five pounds of hay would contain 21.70 pounds dry matter, 0.725 pound digestible protein, 10.50 pounds digestible starch and sugar and 0.37 pound digestible fat. This would lack in all the elements and would contain too large a proportion of the heat and fat-forming elements, being a proportion of one to fifteen. But we will allow that she will get along with this ration for the first month; then we will give her three pounds of bran until the 20th of March, when we will assume she comes in milk. We then feed her five pounds of bran and three pounds of cornmeal per day until the 20th of May. Then pasturing for twenty weeks; that we give her three pounds of bran and two pounds of cornmeal per day for sixty days in the fall, and keep her through the fall up to January 1st on cornstalks and roughage. Then our account would stand about as follows:

	Pounds.	Cost.
Twenty-five pounds hay, 140 days	3,500	$17 50
Three pounds bran, 48 days	144	93
Five pounds bran, 61 days	305	1 98
Three pounds cornmeal, 61 days	183	1 37
Pasturage, 20 weeks	....	5 00
Three pounds bran, 60 days	180	1 17
Two pounds cornmeal, 60 days	120	90
Cornstalks, roughage, 100 days, 7½ cents	....	7 50
		$36 35
Depreciation at 10 per cent. on $30, the value of cow	....	3 00
		$39 35

Our question gave 3,500 pounds of average milk. This has been found to be about 3.8 per cent. fat, or about four pounds of butter to the hundred pounds of milk. This would give 140 pounds of butter, which would make its food cost 28 cents a pound. Then add the cost of manufacture, which would bring it up to 30½ cents for butter, a loss of at least 10 cents a pound, or $14.

In making cheese it has been found that one pound of fat in the milk will make, with good conditions, 2.70 pounds of cheese. This would give us 359 pounds of cheese, at a food cost of 11 cents. Add the making and furnishing and we have 12 cents. Last year's selling price averaged about 7½ cents, a loss of 4½ cents, or about $16. If it were used as crude milk (a quart of milk weighs 2.14 pounds) this would give us 1,635 quarts of milk at a cost of 2.4 cents a quart. It does not require an expert mathematician to see that this means a loss of a large amount of money to the farmers who keep that class of cows. Allowing that the loss is only $12 on the average, to the dairyman with twenty cows, it means $240, and on the cows in the State about $19,000,000. If the farmers of the Empire State had that money to-day, I do not think we would hear quite so much about hard times.

In these calculations we have not taken into consideration the labor which was included in the question, and the showing is so bad that it would seem that it was not necessary to bring that in to convince every one that the business is in bad shape. But there is another item that we have not credited, and that is the value of the manure, which would go quite a little way towards paying for the labor, if it was all saved and put on the land, so I think we will leave that out of the calculation and come back to another phase of the subject, and that is the question of higher prices for dairy goods.

As we all know, the higher prices that prevailed, commencing about 1862 and continuing up to the "eighties," was a great stimulus to the dairy business. I remember very well hearing the farmers talk that the central and northern parts of New York State had a monopoly on the butter and cheese business. They did not believe the western part of the State could ever be much of a dairy section, and when the Western States were mentioned as competitors they had no fears. As they expressed it: "We have succeeded in the business here because we have good, sweet nutritious grasses and pure spring water. Without these, success would be impossible. The West has not got the natural pasture grasses nor the spring water, and, for these reasons, cannot become competitors with us in this business."

Has this proved true? You all know that it has not. The western part of this State, the northern part of Ohio, the central portion of Wisconsin and the district about Elgin, Ill., started the dairy business early in the "seventies," and it has gradually increased in those sections ever since. The State of Iowa was not considered much of a dairy section ten years ago, and one in the East, speaking of that State, would say it was a great corn State and did an immense business in the fattening of cattle. But if we look up the statistics of the Agricultural Department at Washington last year, we will find that they stand second as a dairy State in the United States, New York State being first. But if we do not look out it will only be a short time before they will oustrip us and forge to the front. Their output of butter last year was reported to be $33,748,000. The total dairy products of New York State were valued at $60,000,000, which includes crude milk and cream. The value of these two alone sold in New York and Brooklyn last year was $16,107,648. Figured at the price the farmer received, with freight added, if we give the price the consumer paid, it would amount to considerable more. The Department of Agriculture gives the total value of the dairy products of the United States at $700,000,000; the value of the corn crop, $567,509,000; the wheat crop, $237,938,000, and the hay crop at $393,183,000. This makes the value of the receipts from the dairy over $100,000,000 in excess of any of the great cereal crops, and gives us some idea of the magnitude of the business. And it is constantly increasing. In the State of Minnesota alone it is reported that there were over 600 new creameries built last year.

Then another point to be considered, is consumption keeping pace with the increased production? It certainly must if prices are to be maintained. It is difficult to obtain facts in regard to home consumption, but we can tell about the exports. Those figures are carefully kept, and the results show that we exported the most cheese in 1880, the figures that year being 141,122,000 pounds, having a value of $16,500,000, and 23,492,000 pounds of butter. For the year ending May, 1895, we exported 48,287,000 pounds of cheese and 869,000 pounds of butter, a loss in our yearly export trade during fifteen years of about 100,000,000 pounds of cheese and 23,000,000 pounds of butter. This has been largely brought about by the manufacture of skim and filled cheese and oleomargarine, that some people in the United States have been largely interested in, because they could get a little more present profit from it. Canada, on the other hand, has made it a misdemeanor for anyone to manufacture anything of the kind in that country, and the result is that, where her export of cheese amounted to $3,900,000 in 1880, last year it footed up $15,500,000, showing that honesty pays in the dairy business as well as in other lines of trade.

With all these facts before us I think you will agree with me that the prospect is not good for very much higher prices in the near future. So it brings us down to the point that we must keep our cow for less money, or have one that will produce more milk at this cost of keep. I think, if we will study the situation carefully, we will find that we can improve in both directions.

While prices were high the farmer was desirous of keeping all the cows that he could, as it did not take a very good cow to show a profit; consequently he bought from the droves that were brought in from Canada and the West and in that way he got into the habit of keeping cows, with the idea of numbers, and not from a knowledge of what the individual animal could do for him.

This is the principal cause of the average amount of milk per cow going down to the low point which it has, and is the first point where we must begin to reform, if we would make the business profitable in the future.

To illustrate this point of individuality in the cow, I am going to take the herd at Cornell University. I take the figures from this herd for the reason that an exact account was kept with each cow — weighing the food that each consumed and then weighing the milk and analyizing it. In this way, at the end of the year, they could tell whether she had proved to be a profitable machine or not. This is the idea that the successful dairyman must recognize — that his cow is a machine to work up the raw material that he produces on his farm, and unless she can do that at a profit, the quicker she is off the farm the better it will be for him. I will not give the figures of the whole dairy of twenty cows, as that is not necessary to bring out this point.

Take, first, the cow "Daisy." She cost, to keep, $41.24. She produced 2,829¾ pounds of milk, making it cost $1.48 per hundred, or 159.2 pounds of fat, at a cost of 26 cents per pound.

The cow "Sue" cost, to keep, $49.08, and produced 10,754 pounds of milk, making the food cost 41 cents per hundred, or 439.37 pounds of fat, at a cost of 11 cents per pound.

The cow "Glista" cost $43.80 to keep, and produced 5,136 pounds of milk, at a cost of 85 cents per hundred, or 160.79 pounds of fat, at a cost of 27 cents per pound.

I do not think it is necessary for me to go any farther on this line, as this illustrates the point that I wish to make. These animals were all kept under the same conditions; they had all the good nutritious food they could digest and assimilate. The differences, therefore, in the results are astonishing, if we have never given the subject any attention before. A difference of $1.02 per hundred pounds in the cost of the milk — an amount that we consider a good price for the milk per hundred. We all know that there is no ordinary way that the milk could be used that we could get $1.48 per hundred for it, unless it was very rich in butter fat, and in this case it was not. The butter from one cow costing 26 cents a ponud; the second cow costing only 11 cents a pound; a difference of 15 cents; fully as much as we get sometimes. So we see that it would be impossible for a farmer to keep the first cow without a large loss, while the second one would show a profit at present low prices. The third cow was a reasonably good milk producer, her milk costing 85 cents per hundred, as she produced 2,300 pounds more milk than the first cow, but when she came to the production of butter there was only one pound more, and, as it cost $2 more to keep her than the first cow, it made her butter cost one cent a pound more, which shows the necessity of testing the milk to know how much butter fat it contains, as well as weighing to know how much in quantity she produces.

A good many farmers that I have talked with about weighing and testing the milk from their cows, say: "We cannot be bothered; it is too much work;" so they keep on with the same lot of cows, losing money and finding fault with the business.

We have heard a great deal about filled cheese and oleomargarine, and what an injury the manufacture of these fraudulent goods are to the farmer, which is true, and everything possible should be done in the way of legislation to protect their interests, and that of the consumer as well. But there is one point in the business that I do not think the farmer fully realizes the force of. Last year the internal revenue report showed there was manufactured in this country 70,000,000 pounds of oleomargarine. Taking the census returns of 140 pounds of butter to the cow, that would equal the production of 500,000 cows, about one-third of the number in this State; and the question that I wish to bring up is, which causes the greatest injury to the dairy farmer, this amount of oleomargarine put on the market, or for him to keep these 500,000 cows, and make butter and cheese to fill up the market and do it at a loss of at least $12 a cow? It would seem to me that this phase of the subject is worthy of some attention on the part of the farmer.

When we have satisfied ourselves in regard to the cow that we must keep for profit, the next thing will be how to feed her so that she will give us the greatest profit. I do not think it is necessary for me to go over this subject of feeding. It has been talked about so much, and so many articles have been written, that anything that I might say in addition would not make it any more emphatic. We all recognize the fact that the cow must have a certain amount of food to maintain the normal temperature of the body and supply the elements to repair the worn-out tissues.

This is not a question of the foods that we purchase in the form of mill stuff, but the rough food we raise on the farm, which is our principal dependence for the starch and sugar, the heat and fat forming elements, of which our animal requires five times as much as of the blood formers.

The question for us to decide to-day is how can we furnish those foods the cheapest. In order to decide this I think it will be well to make a computation of the amount of digestible food elements that we can get from an acre of ordinary land. In hay, the average as given in the census, is less than one ton to the acre, but allowing a ton, that would give us 928 pounds of digestible elements to support the life of the animal. The same land, in corn, will easily produce twelve tons, which in the silo would give us 2,976 pounds of food elements, and with the added value of succulency, which it is difficult to estimate. The majority of those who have been feeding silage for any length of time, and have carefully observed results, say that their experience shows that two and one-half tons of silage will keep the cow in better condition than one ton of hay. The chemist says there is 300 pounds less digestible food elements in that amount of silage, but the cow says: Never mind that. You give me the silage and I will give you the milk if you will only keep me warm and comfortable, and for less money than from any other food you can furnish me in the winter. These are facts that have been proven many times, and are capable of being proved again by any careful man who will give them a fair trial.

It is a generally accepted fact that the present system of dairying is not remunerative; and why so many farmers should insist on sticking to that plan, allowing the old prejudices to control their better judgment, and prevent them from accepting modern ideas, which have been proven to be better, is surprising. But the encouraging feature is, that we can see more and more of the young men getting out of the old ruts each year, and I hope the time is not far distant when it will be impossible for anyone to say that the average production of milk in New York State is only 3,000 pounds per cow.

Successful Success.

John Gould, of Ohio.

One of the most important questions we are called upon to solve is whether dairying does or does not pay; whether it is a profitable vocation or simply a makeshift to attain a possible living. If it does pay, can it be conducted on old lines, or shall the dairyman cut loose, so to speak, from old ways, and strike out into new channels of method, and say, "I'll do better, try new ideas and be progressive in the future."

Conducted as dairies may be, in the light of recent practical investigation, we may assume that no industry in this country, taking capital invested, and giving credit where credit is due, gives so large a return on actual capital invested as does the farm dairy. That some farms and dairies pay their owners a living and dividends for labor, and other daires do not pay, seems proof conclusve that, if the dairy does not pay it is more the fault of the man "Than of our stars, dear Brutus."

That farm values have shrunken is no fault of the cows, for all industrial stocks have shown a like fate. In the past four years the railway stocks of the country have shown a shrinkage of probably $200,000,000. High grade dairy cows have fallen in values, but the farm yet produces full average, and even better crops; the cars run and show but little falling off in freights, and cows are on the uphill of increased production, even if cheaper. Some grains are higher, others cheaper, than a year ago, but more farmers raised their own "cow feed" last year, and on the whole the well-managed dairy paid, and will pay this year and the next.

Agree as we may about the conspiracy going on "to down" the farmer, this remains: There was more produced on the farms in 1895 than ever before. That no set or class can conspire and prevent the farmer from having a well kept and productive farm, owning a good dairy and making fine dairy products, obtaining the top of the market prices, and besides making a rich living, so far as food and drink go, from the farm, for which he pays not a cent, while his brother in the city, faring no better, yet buying all, pays out the largest share of his salary. All this is beyond law regulation and the extortions of the "robber barons," and he who runs a dairy by the best plan and system he can devise or learn about is laying a firm foundation for successful success independent of governmental enactments.

In looking back over the past and making note of the things we have seen and read of, we can think of scores of men who started out as dairy renters, obtained a start, then a farm was purchased and paid for, and the discomforts of the first years gave place to the actual comforts. The white house and the red barn appeared; the children were educated, married off, and set up and set out; the poor were rememberd, the gospel supported, the farm was stocked with machinery, and, strangest of all, hundreds of these men are money lenders in some degree.

DAIRYING A SAFE BUSINESS.

I am sure that, after thirty years devoted to the business and seeing thousands of dollars of debt and interest finally become extinct, that the dairy business is as safe an occupation as any; but, to make dairying a successful success, it should be made the chief industry of the farm and occupy the studied attention of the owner. Do you hear of any considerable number of dairymen who have put knowledge, attention, zeal and judgment into their vocation, and let outside speculation alone, who have made assignments? Do you find that nine strictly dairy farmers fail to one village business man? Do you recall the instances of a first-class dairyman going under?

But the average dairyman has a world of information to gain before he can secure the best success. It seems easy to say, "Why are not all dairymen successful like those whose names are seen every day in print, and all shining examples of success in dairying?" Why, in answer, are not all political aspirants the equals of our greatest statesmen? I am free to say that it is natural ability—aptitude for business—actually making it a matter of dairy sentiment, call it love for the cow if you will—that has largely to do with successful success in dairying.

Some men have always been in the front in dairying; all these men, when their secrets of success have been fathomed, have been the men who possessed advanced ideas. They were the first to recognize a dairy cow and refused to look for milk in all forms. They were the first to adopt new inventions. They were the men who read dairy literature and attended conventions and institutes. They are in front all the time. I know there is a reproachful old saying about "kissing a cow," but the dairyman who best succeeds must come very near it. He must watch her, anticipate her wants and demands, and furnish her with all cow comforts. He must humor her to a great extent, and put himself in the position of all things to all cows to win the pail of milk, which, left to the care and opinon of another man to execute, would be a very small pail at least. Theodore Louis once said: "It is not all natural ability that succeeds, after all. There are rules and regulations one may adopt and school himself into, that will come very near bringing a man to the point as a successful dairyman." These rules, if followed by the average dairyman, would help him vastly. A man may naturally succeed in dairying, it being his inborn ability to handle cows; but I hold it absurd that a man who is mentally and physically lazy cannot learn dairying to the point of attaining success. A man who will try to develop his powers of reasoning and attempts persistently to broaden his judgment, will enlarge his mental capacity to the point of success. Many a man sent to Sing Sing has become a skilled artisan who never dreamed he possessed skillful powers. Why, on the farm, breathing the free air of heaven, with a freeman's foot on the soil, with a fair promise of a comfortable living and dollars as a reward, why be slothful and indifferent and thus feel the everlasting pinch of want? Why this man should not be in the front rank of successful success surpasses all human understanding.

I know there is a widespread aversion to being "tied to a cow," figuratively speaking, of working with a certain round of regularity that the dairy imposes. But why object to the pressure of steady remunerative labor, that has its pay always in sight, and count, instead, as thousands do, the steady augmenting obligations from which death only releases?

DON'T TRUST TO LUCK!

Success in dairying cannot be obtained by "trusting to luck," a "trust" defined by a bright Westerner as a "false light that had shipwrecked more men than all the corporate trusts since the foundation of the world." There is no luck in dairying. Success has always come and always will, by thoughtful, studious attention to the industry, and an attempt to provide the most and the best at the smallest expense. To this end the dairyman must take cognizance of the following leading ideas—not wholly new, but all to be more generally adopted:

1. A dairyman in love with his business; determined to stay by it and be ever progressive.
2. A dairy cow fitted for a special purpose.
3. A dividing up of the industry into three divisions—butter dairies, factory milk and city supplies.
4. The adoption of the milk and cream test for each dairy, and

pay a dividend by the per cent. of solids in milk, and not by the weight of the water in which they float.

5. Abundant and suitable foods for the cows, home grown as nearly as possible, and not adapted to feeding of steers (whether male or female).

6. Barns and stables made for dairies and winter comfort—not modeled after a summer pavilion—and so arranged that economy can be practiced in every way.

7. Having a definite knowledge of what you want, what is required of you, and above all, market judgment and tact to cater to and please that market.

These propositions, you will see, are not new, nor very strange, and are possibly reiterations; but I am Methodist enough to understand that one class-meeting does not greatly differ from another. Love feasts are duplicates; still, in the repetition of experience, hopes and fears, and appeals for more faith, these good, oft-repeated purposes and resolves becomes towers of strength.

COMPETITION.

To obtain successful results in the future, we must find out whether we are being injured so much by competition as by our own failure to comprehend and push to its limit the productive quality of our dairies.

The man with a 275 pounds-of-butter cow or a 6,000 pounds-of-milk factory cow, fed on the now demonstrated best and cheapest foods is not finding hard competition. It is the man with the common cow, varying pasture feed and ill-ventilated barn, with hay ration for the winter, that is ground between the nether millstone of Western produce and that of his more progressive neighbor. To say that the dairy does not pay is suggestive of practice that smacks of tradition and prejudice. The successful dairyman cannot be an obstructionist and say that the best instruction of today is not as valuable as common sense. The man who, years ago, learned all about dairying and discards all recent investigations, is not a safe advisor. This man, in his day, has objected to warm barns, because they made the cows tender; would not own well-bred cows, as they were easily susceptible to disease; pronounced against succulent winter food, as it was "agin nature;" that cows kept in a stable continuously fifteen weeks would die for want of exercise; declared as nonsensical the idea that all milk is not alike valuable for butter and cheese-making; has issued his proclamation against granulated butter, because it would not keep; that the market won't buy sweet cream butter; that the extractor will never work, and finally, Brother Jasper was right: "The sun, he do move."

MUST BE A DAIRY STUDENT.

I would have this successful dairyman not only in love with his vocation, but a student who reads widely and thinks deeply; not a chronic pessimist, but one who has confidence in himself and faith in his cows; not a self-contained man, but one who sees, invents, copies and uses borrowed ideas, if good, as well. This man should have definite aims — does not shift his business each year — but selects one of the three great dairy industries, stays by it, and gains both reputation and money. This allows him to bend every energy to one task, cheapen here and be more lavish there, and so guides, directs and molds.

This man's dairy is so ordered that it produces nearly or quite every day in the year, giving continuous income and remuneration as well. Successful success implies continuous industry; not the kind a man once acknowledged that he liked — the kind he could stick in the ground, and while it was growing go to town and play pitch.

WHAT SHALL THE COW BE?

The cow the dairyman must keep is a matter he must decide for himself from the standpoint of demand; butter, cheese, or city milk. But in this I think we are all — or should be — agreed; that, whatever the breed, she must be of the dairy type as contrasted with the beef form. Governor Hoard's cow, I think, has become the accepted model, and we can now see, whether this cow be Jersey, Holstein, Guernsey or scrub, that peculiar conformation of "form to purpose" is now everywhere recognized and accepted as the cow the dairyman wants, i. e., the dairy form.

By general consent the successful dairyman has let go his hold upon the combination cow. I have heard more about the special dairy cows within the past year than in the ten that preceded it, The beefy, blocky cow of elephantine proportions is denounced as a dairy cow. The profits of carrying 500 pounds of extra beef on a cow six or eight years, to sell at a cent a pound, has lost its charm. Its excuse now is that it needs a big mother to raise a steer — a double office — a power to transmit beef qualities to the steers and the dairy habit to the heifers. But is it not a fact that the steer is a result of after food and skill on the part of the feeder? True it is, but few dairymen raise steers, though some farmers' milch dairies might as well be classed on the male side, so far as profit goes. The dairyman is fast finding out that the ration that produces the pound of steer beef as readily makes a pound of butter, or two pounds of full stock cheese. The dairyman cannot longer afford to put the valuable ration into unknown and uncontrollable channel of production, such as the combined cow must have with the double heredity back of her struggling for the mastery of the ration. I admit I have seen milk in copious measure drawn from the beef form, but my experience with it is that beef influence soon gains the mastery and my great, blocky milker goes dry seven months of the year.

INDIVIDUALITY.

Let the milk flow be what it may, food alone cannot control the quality of the milk. The cow has an individuality of her own, a born milking habit; and the greater the number of her ancestral grandams that have possessed this milking trait the greater the probabilities that the cow will possess like qualities. Remember this: No man ever developed a cow into good performance that did not have this born quality of development to start with. But thousands of heifers that were born to make the best cows have been utterly ruined by bad feeding, cruel treatment and needless neglect.

RAISE YOUR OWN COWS.

Success in dairying implies that a dairyman should raise his own cows, as far as he can, and buy, if he must, wisely. So he must be a judge of cows, a collector of dairy forms and performances; a reader of "cow character" — a cow phrenologist, like Brothers Dawley and Van Dreser.

BETTER FEEDING.

Better cow feeding and handling of cows by the average dairyman would carry with it greater success. All this talk about making cows hardy, tough and constitutionally vigorous beyond what we feed into them by wise selection, should be eliminated as quickly as possible from our dairy wisdom.

At best our cows are boarders, and profit means that, for part of the year — the longer period the better — they shall pay us rates so high that we can in midsummer give them entertainment for a few weeks. I do not plead for more fussing and patting with the cow, but a little more rational care, and we should sooner begin the extra care of the milker. This plan of the winter dairy is showing farmers that profitable care of this cow means more than a wide range of summer pasture, and beginning to stable her Thanksgiving night. A really kind-hearted man, without thought, actually abuses a cow by neglect. I have seen, this last autumn, a dairy of fast freshening winter milkers stand for hours, yes, days, in the aggregate, in the chilly, drenching rain, rounding their backs as the deluge of water broke across their spines, and go into camp at night in the muddy fence corners of a long, unprotected lane, and these cows, mothers (?). I don't think the owner ever thought of the milking habit of those cows, as a maternal function artificially prolonged. The intended food for offspring was turned by the hand of this man into the channels of commerce, and so denied to them the after office of a mother. No other benevolence of nature would thus have contributed to him, save this unfathomable benevolence of motherhood, whose office is forever to give, even if draining the foundation of life-support itself. Success must come nearest to those who recognize in the fullest extent this underlying principle of attaining success in dairying. Whatever will best administer to the comforts of the mother cow — quiet, care, warmth, succulent and stimulating foods, pure air, clean water, and regularity of attention — will succeed; for on this hang the loss and the profit so far as concerns the cow.

EXERCISE.

The dairy world laughed when the late Hiram Smith said that the chewing of the cud was all the exercise that the milch cow needed in winter, but now it thinks differently. The point is like this: Milk making is an expenditure of nerve energy. The cow making one pound of butter a day puts not far from three and one-half pounds of solids into that milk, which otherwise would represent energy, and if not expended in this way would need an outlet in exercise. The embryo calf calls for less than a third of a pound of solid matter per day. This cow, if properly housed in a comfortable stall — not made rigid in a stanchion, but haltered, given a full amount of sunshine and air — will not suffer during fifteen weeks and then, when summer comes, gets her exercise in pastures green, and along sparkling brooks, ready to take her place again in the dairy in the fall.

FEEDING FAT INTO MILK.

Successful success will come sooner if the dairymen will take the investigators at their word and stop trying to feed excellence and quality into a cow's milk, above her natural normal limit of production. We may accept Governor Hoard's other dictum, that the quality of milk a cow is to give is born with her, and no feeding will make a Holstein of old type give Jersey milk or starve a Jersey into giving old-type Holstein milk. We may feed the cow and increase the quantity, feed her up to the normal limit — but here we stop. Beyond this, the cow cannot go, and beyond this the food is lost in vain attempts to attain what nature has prohibited. In some way nature has established a sort of fixed relation between the solids in a cow's milk, and these remain fairly constant; and so, while we may feed quantity to a certain extent into a cow's milk, the quality is beyond our powers to regulate, so our success will sooner come by selecting the rich, deep milkers and giving them the food, rather than to feed poor cows to get greater yields of the same sort of milk which they must and can only give.

RATIONS FOR OUR COWS.

Then comes the rations for our cows, abundant and cheap, and of some variety that will have largely to do with obtaining success. The everlasting pasture, the unending diet of dry hay, and some corn in the ear, will not do in the future. This food of support and food of production must be studied and solved. The cow first lives out of the ration, and makes milk of the balance, though some cows are less miserly than others. This habit of economy in living and benevolence in giving, may become inherent in a breed, but as a rule, the cow is like the Arkansas jury. "Do you find for the plaintiff or the defendant?" asked the judge. Rolling his tobacco quid over where he could get a fresh grip on it, the foreman replied. "What is this jury fer, judge? We first found fer ourselves." We must know more about these rations, and scoff at science a great deal less, for investigation is, after all, only seeking after facts, and Cornell University and the Geneva Experiment Station have the skill, the apparatus and the money to find this out. All admit that milk is recomposed food, changed in some way, and believe that the fats in milk are not the result of oil fed to cows, else we would all be feeding cheap grease and getting fancy butter. What shall we feed, how much, how often, and when and where, and all connected with this subject, are the questions.

THE SILO.

I am stronger in the belief than ever that silage made from green corn and clover is to be the great roughage ration of the future. What we shall feed with it is the question with me. If I can raise fifteen to twenty tons of excellent silage upon an acre, and raise and sell it for eighty cents per ton with an actual outlay of less than sixty cents in money, and six tons will keep a cow 195 days, that part of the question is solved for me. But I had to raise oats to balance that ration, buy shorts and feed clover, etc. Nine acres, last winter, furnished ample roughage for my twenty head of stock, and last summer sixty acres of pasture did no better.

TEST THE MILK.

Full success in dairying will and can only come to the general dairyman and restore him to an individuality he has lost in the present system of associated dairying, when there is a general adoption of the milk-testing plan at our factories, in place of the pooling method by weight. The alloting to each patron the value of the fat and cheese in his milk, putting each dairy upon its own base of performance, must be made conspicuous in our dairying. The man who sells milk or cream, or puts it into a common reservoir, should receive for it in the end an equivalent that its contents of fat and cheese entitle him to. There is no more commercial sense in pooling milk at the factory, by our plan of division, than that all horses should be sold for ten cents per pound, irrespective of merit or performance.

The moment we introduce the test plan we bring in an educational feature — a study along the lines of milk production that will open up new features and propose new plans that will make success all the more certain. The first awakening will be of obtaining milk of better quality, and the poor cow will quickly go, for the dairymen will find out quickly that it is not the foods that makes the quality, but rather the born development of the cow, and the food consumed will be better proportioned, and when consumed will be better assimilated; less cows will be needed, and a consequent economy and yet an increase secured that will win success.

STATE DAIRY SCHOOLS.

If the State is constitutionally committed to support agricultural schools, why should not the State agricultural colleges have branch dairy schools at convenient points, fully equipped, and after a certain date make it a matter of compulsion by State law, that the man who stands beside a factory vat or a power churn shall have his diploma from this school, as much as a girl who teaches the district school shall possess a certificate of examination? This would work no injustice to the already skillful and well informed makers, but would shut off the employment of thousands of " cheap Johns " whose only qualification is that they engineered a milk wagon last year. This school should be easy of access; the tuition should be free, and every plan feasible with thoroughness adopted. Denmark is dotted all over with these government dairy schools. Sweden has them, and even Finland. We have a nucleus at Cornell and another at Geneva in this State. Now let competent men be sent out, furnished with portable churn and cream can and given an itinerant commission to go and teach butter making from Brock's monument to Montauk Point, all over the State of New York.

How I Have Increased Amount of Milk Without Increasing Cost of Production.

By L. Conine.

Mr. President.— Before saying anything further, I wish to say a few words in explanation. In producing milk for sale we have been prevented by our contracts from using ensilage, sprouts, brewers' grains, and, in fact, nearly all the cheaper kinds of cow food. Under other conditions we might have followed different methods and perhaps got better results. Let me say, too, that I do not speak as one having authority, but just expect to tell what we have done and are doing to increase the amount of milk and lower the cost of making it. It will be easier for me to divide what I have to say and speak, first of the cows, next of our management of cows, and finally of cow food.

The Cows.

In the stables to-day there is one old-fashioned native cow that has held her place there for seven years. She represents more cost than any other cow we own, for she is all that remains of 20 or more of the best of her kind I could buy. There are five grade Ayrshires of our own breeding, one grade Holstein that we bought, because she was the best milker and butter-maker in a herd of extra good cows, and the remainder of the herd are registered Holsteins.

These cows are, in their class, the best we have ever owned, and each one has been a profitable animal. We have always sold as soon as possible every cow that did not make her share of the yearly amount of milk, for it has been our aim to make more milk per cow each year.

Now, no matter how good a herd may be, when the yearly average is made up some cows will fall below it, and those cows we weed out. Since we have followed this plan the cows that were once at the head have dropped to the foot and gone out of the stable, and yet they were giving the same amount of milk. The average yield had increased and they could not keep up.

This practice of getting rid of the poorest and putting better ones in their place looks expensive, but it is not nearly so expensive as keeping them in the herd to drag on the better ones. Of course, we do not expect a young heifer to produce like a matured cow, nor do we let a cow go if she falls below the mark on account of some mishap that is not apt to hurt her for another season.

In order to find the average yearly yield, for the first two years we made milk, we added the year's sales to the amount used at home and divided the total by the number of milkers. This method gave the general average all right, but it did not tell the good cows from the poor ones, and we had to do some guessing. For the last five years we have kept an exact account of each day's sales and added to it the amount used at home, and instead of guessing which cows are good and which are poor, we weigh each one's milk and are sure. We don't weigh each cow's milk every day, but we do weigh each cow's milk often enough to know just what she is doing, and in case of new cows, or when, for any reason, we want an exact account for any period, we weigh each milking for a year, if it seems necessary.

The amount of milk sold and used at home tallies so closely with what the scales tell us each cow is doing, that we do not think it necessary to be more particular in our methods.

Now let me show how the practice of weeding out and replacing has affected the yearly yield of our cows.

The first year, ending October 1, 1888, our cows, all natives, gave 1,800 quarts each.

The second year, all natives, except one Ayrshire, they gave 2,200 quarts each.

The third year they gave 2,550 quarts each.

The fourth year we milked some of our own breeding with the others and got 2,760 quarts from each cow.

The fifth year we had added one grade Holstein and that year they gave 3,040 quarts each.

The sixth year some pure bred Holsteins were taken in and we got 3,480 quarts per cow.

The seventh year, ending October 1, 1894, more Holsteins were added and our cows gave 3,754 quarts each.

In making up the last two years' average, we find that our pure bred Holsteins averaged about 5,000 quarts each year and the other cows about 3,000 quarts each. It looks as if it would be all Holsteins soon, for the Babcock test shows us that the amount of butter fat in our milk increases as we increase the number of Holsteins.

Next, as to how we manage and care for our cows.

We would like the cows to be all fresh milkers in October, but some are a little earlier and some a little later than that.

A fresh milker will respond quicker to grain and pay much better for it than one that has been milked a number of months, and when spring pasture comes, the cows that were fresh in autumn will again give almost their full flow of milk, and as pasture fails go dry at the right time.

It doesn't pay to feed grain to a stripper, and it does pay to feed it to new milkers, either summer or winter, when it must be fed to all and when the price of milk is highest.

We aim to get a cow to her full flow of milk as soon as we can safely do so and keep her there as long as possible with profit. We feed and milk always in the stable. Never outside at any time of the year. Whenever the nights are chilly the cows are stabled, and when pasture is scant they are given a foddering of hay or corn fodder, whether they are kept in the stables or not.

When we are through pasturing in the fall, the cows are stabled day and night, except that on pleasant days we let them out for an hour or so, for exercise, but when the weather is not pleasant they are not out at all. We keep them from getting wet by storm during all the cold season. We keep the stables comfortably warm and always well aired.

There is a cement manger in front of our cows, with an outlet at one end and a grade to it, and there we feed and water from fall to spring. All ground grain is mixed for feeding and kept in a mixing bin in front of the manger. This bin is large enough to hold a number of feedings, and it is easier to mix and feed in that way than to feed each kind of grain separately, and the cows seem to like it better. We mix by weight, and each cow gets the same proportion of each kind of grain.

The first thing in the morning is to give the cows a feeding of grain, then they are milked and given a light foddering of whatever kind of "roughage" we may be using. Sometimes it is hay, sometimes it is corn fodder, and we have fed many tons of rye straw in the sheaf.

When the cows have finished this (we only give them what they will eat clean) the manger is swept out and they are given all the water they will drink. The water is pumped into the manger from a well and it is as good water as we use in our house. After the cow has finished drinking the manger is swept dry and the cows are left alone until just before milking time in the evening, when they are again fed grain and then milked. After milking they are given all the hay they can eat, and about 8 o'clock at night, if there is any hay left, it is taken out for use in the morning, and the cows are again watered and left for the night.

We find that plenty of good drinking water is important in making a cow do her best work, for our cows require nearly five times as much water as they give milk, and we can lower their yield any time by cutting down their supply of drink. We never owned a good milker that was not a big drinker, and any cow will drink much more in a warm stable than she will in a cold field.

Now, I have given an outline of how we care for, feed and water our herd, but there is an exception that I want to mention about feeding. This winter we are feeding a crop of oats in the sheaf, and we feed them to the cows after the morning watering.

COW FOOD.

All farmers, and many who are not farmers, have their own idea about feeding. There are books and tables which tell the feeding value of about everything a cow can eat, and it will pay any farmer to study them. But sometimes the cow and the books don't agree on what a particular kind of food is worth. That is, two kinds of food may have, chemically, the same feeding value, and yet in practical use the cow may find a difference and give much better results from one than she will from the other.

I shall say little about hay or rough fodder, as I think we all agree in believing that clover hay is about the most desirable and timothy hay the least desirable for milk making. For cow hay we are feeding now with a mixture of our own, made up of clover, orchard grass and tall meadow oat grass in about equal parts by weight with a little of some other grasses added to it.

We use 25 pounds to the acre and hope for good results, but we will cut our first crop of it this season and we may be disappointed.

We have fed nearly all kinds of grain allowed by our contract. Of wheat feed, we like bran best, and generally speaking, we think that in feeding grain of any kind it is best to use whatever form of it gives the most bulk for the weight. Cotton-seed meal, up to a certain amount, has always paid us, perhaps, better than any other thing we have to buy.

Now, it will suit me better to give you some facts about feeding, and let each one draw his own conclusions. I will tell what we fed our milkers last winter and what we are feeding them this winter; what it cost a day for each cow and what milk the cows gave for it in January and February, 1894, and in January and February, 1895.

In 1894 we fed:

Twelve pounds hay, cost	$0.06	
Eight pounds corn fodder, cost	.02	
		$0.08
Ten pounds wheat bran, cost	$0.09	
Six pounds hominy, cost	.0540	
Three pounds cotton-seed meal, cost	.0375	
		.1815
Thirty-nine pounds, cost		$0.2615

The farm furnished eight cents' worth and the mills furnished 18 15-100 cents' worth of the daily ration for each cow in January; the cows give 14 quarts of milk a day and in February, 14 4-5 quarts a day for each milker.

In the winter of 1895 we are feeding:

Twenty pounds hay, cost	$0.08	
Three pounds oat-straw, cost	.0075	
Three pounds oats, cost	.0150	
		$0.1025
Six pounds wheat bran, cost	$0.0550	
Four pounds buckwheat feed, cost	.0320	
Two pounds cotton-seed meal, cost	.0230	
		.11
		$0.2125

The farm furnished 10¼ cents' worth of the daily ration and the mills furnished 11 cents' worth, and each cow gave in January, 1895, 15 quarts a day and in February, 15½ quarts a day.

The increase in yield is because of more Holsteins and fewer natives. The decrease in cost of feeding is a very little because of lower price of grain, something because of a better quality of hay, but most of all because of feeding a crop of oats in the sheaf. No doubt ground oats are better than oats in the sheaf, but not enough better to pay for threshing, grinding and the loss of the straw for feed in the sheaf. There seems to be no waste either in oats or straw. All are eaten and seemingly digested.

We don't try to cheat our cows or give them an ounce less of anything that they will pay for, nor do we push them at any time. We are not looking for records, but profit, and while we are pleased to cut the cost of feeding from 26 15-100 cents a day in 1894 to 21 1-4 cents in 1895 we are better pleased to know that we cut the mill bill from 18 15-100 cents down to 11 cents and raised more on the farm.

I have given you no figures on the cost of a quart of milk, but the year we got 1,800 quarts per cow it cost 2 8-9 cents and the year we got 3,754 quarts it cost 1 1-3 cents per quart.

The poorest cow we ever milked did not give over 1,000 quarts and it cost over five cents a quart. Last year one of our cows gave us a trifle over 7,000 quarts in 11 months and her milk cost us not quite three-quarters of a cent a quart.

Winter Milk Making.

Asa Hunt.

When one of the committee on arrangements came to me sometime ago and asked me to write something for this Institute, I thought, well I did think you had better judgment than to have me try to entertain the people here with any thing I could write; but he persuaded me against my better judgment, and now I want to thank him for it. Not that it has been any pleasure to me or that I feel that I am competent to treat this subject in a way that will be very interesting or instructive to the rest of you. Before that I had been what could be very appropriately called a guess-work farmer. I had been making a specialty of winter milk for two years, and very naturally wondered what it cost me to make a quart of milk, but if I tried to figure it out, it would be I guess I feed so many pounds of ensilage, I guess I feed so many pounds of hay, and I guess I feed so much grain to each cow a day. I had never weighed any of my feed, but after I had consented to write on this subject I began to realize that I had something to do, for I knew it wouldn't do to tell the farmers here, where in all probability nine-tenths of them were better farmers than I, how I feed my cows to make winter milk, and just what that milk cost per quart, and then have to admit that I had been guessing at it, so I weighed my feed and the result is I know more now than I did, so I am willing to "give the devil his due," and thank the committee for getting me into a place where I had to know more about my milk business than what I could guess at.

Perhaps the first part of this subject to consider is the cows. I am not to give you any set rules to go by in buying cows, for unless those rules worked better for you than they did for me you would get about as many poor ones as good ones. I am not particular to what breed a cow belongs if she will respond well in milk to what I feed her, for I have learned that I must not expect my cows to do well by me in the pail unless I do well by them in the manger. I prefer to have my cows fresh in September, as then I get about two months milking from them, when it isn't much trouble to care for them, as they get most of their living in the lot and milk brings a good price, and I think there is more clear profit than at any other time of the year.

The next I speak of is the feed and care of my cows. The first thing in the morning I feed a bushel basket nearly full of ensilage to each cow that is in full flow of milk and on this I give them what gluten meal I can dip up in a two-quart basin; then I milk. After I take my milk to the depot I let the cows out to drink. It is generally about nine o'clock. If it is a warm pleasant day I leave them out from half an hour to an hour. Then I put them up and feed what hay they will eat. They are through with then until four o'clock, when I let them out again, fix the stables for night, put up and feed the same quantity of ensilage and grain that I did in the morning. Commence milking about five o'clock. After milking I feed them another foddering of hay, which ends the day, except that I always go to the barn the last thing at night and put what hay they have thrown out back in the manger.

Now any of you can tell what it costs to keep one of my cows a day about as nearly as I could before I got into this scrape. But when I came to weigh my feed I found I was feeding forty pounds of ensilage, sixteen pounds of hay and six and one-half pounds of gluten meal. If we call the ensilage worth three dollars a ton, the hay eight dollars in the barn and the feed twenty dollars per ton, it cost $0.189 a day to feed a cow, about two cents more than when I guessed at it.

These twelve cows through the months of December and January have given 8,290 quarts of milk that has been sold, or 11.15 quarts per day from a cow, which is made at a cost for feed of $0.189 or $0.17 per quart, which at the exchange price of $0.02½ per quart, is 27⅞ cents per day for each cow. They reckon it worth five cents per day to care for a cow at Cornell university, so for the past two months I have been getting pay for my feed and having it fed on the farm and pay for caring for my cows and about four cents a day as a profit on each cow. If we could do as well as that all winter there would not be any doubt as to the profit on winter milk. But this has been the bright side of the business; the cows have been at their best and milk at its highest price, so that everything has worked together to make these two months profitable. But there is another side, and I should not be fair if I let this subject pass by without saying something of that side. These cows that have been milked from three to six months begin to shrink in their mess and the price of milk has dropped to one-fourth a cent per quart, so that by the time I get them into the pasture eight quarts will be a good average, which at two and one-fourth or, perhaps, two cents per quart will only about pay for their feed, and I shall have to take some of the profit of the last two months to pay for taking care of them.

As to whether it pays better to make milk in winter than in summer I find some of our best farmers disagree; whether it is more profitable to sell milk than to make butter, provided a farmer has a dairy of good butter cows, I am not very certain. I will tell you of my experience and you can judge for yourselves.

Before I commenced selling milk I had six or eight cows. They were fresh in the spring and fed grain until they were turned into the pasture, then were fed corn-fodder in the fall. I used to sell from thirty-eight to forty-three dollars from a cow, had the butter used in the family and the skim-milk besides. Since I have been selling milk I have fed grain twice a day all summer; sowed a piece of oats and peas early in the spring and commenced feeding them as soon as the oats showed their heads; kept from ten to thirteen cows on the same pasture that I used to keep six or eight on and now get about sixty dollars from a cow.

I don't feel certain that there is more money in winter dairying than in summer, but I am certain there is more profit in dairying than there is in selling hay or potatoes, and winter dairying divides my work better than summer dairying. I can milk and care for twelve or thirteen cows in winter just as well as to sit around, and then in summer I haven't as much milking to do when my other work is driving.

Dairying at Home.

OSCAR LIVINGSTON.

The subject assigned to me at this Institute is an occupation followed by large masses of farmers of this State, and yet, I feel safe to say, very unprofitably.

In these days of sharp competition and low prices of farm products, it is but natural that we should follow some line of farming which promises some profit, and the following are some of the reasons I wish to present as showing "home dairying" to be one of those lines:

First. Skillful home dairying has not as much competition to encounter as has general farming. The grain, potatoes and ordinary crops grown, when marketed, all bring about the same price, for they are the product of unskilled labor to a great degree, while the price of butter varies from five to ten cents a pound.

Second. It affords steady employment all through the year. I think winter dairying an essential to success. This milking cows from April to November, when prices are lowest and farm work most pressing, and then letting the cows "go dry" the balance of the year, while their owner sits by the fire, complaining "that farming doesn't pay," will not do in these days. Have the cows come "fresh" in the fall and give them their rest in July and August and so avoid two months of heat and flies, and gain at least 1,000 pounds of butter, as I know by actual trial can be done.

With a good stable and proper care of the cows, one can really control the conditions surrounding the cows better, and produce a more even flow of milk than is possible in the summer.

Third. Dairying, and particularly "home dairying," when followed as it should be, will enrich the farm faster than will other lines of farming. Successful dairying means, to my mind, the keeping of cows that will produce 300 pounds of butter each. This, of course, requires heavy feeding of grain, and, consequently, the making of very rich manure. This, carefully saved, both liquid and solid, means more corn and grass, and so more cows, and consequently larger crops of everything grown on the farm.

Another thing we do not think enough about. Scientific men tell us that when we sell milk and receive no skim-milk back, we sell seven dollars worth of fertility from each cow kept on the farm; that there is a difference of thirteen cents up, between skim-milk and whey per hundred pounds, and that only fifty cents worth of fertility is sold in every ton of butter. Such things as these mean the success or failure of dairying.

The milk of ten cows sold to the milk station means a loss of seventy dollars in fertility; the same milk taken to the cheese factory, allowing seven cents per hundred for whey, and 3,000 pounds of milk to each cow, a loss of thirty-five to forty dollars. These are direct losses. There is still more to it. The milk of these cows made into butter, and the skim-milk when fed to calves and hogs, aside from its value to the animals to which it is fed, help materially to swell the manure pile. While I realize the necessity of the milk stations and cheese factories to the farmers generally, I do say, that we who will, can make home dairying more profitable.

Fourth. Prices of good butter have depreciated less than have prices of other farm products. With prices of wheat, potatoes, and other things low, good butter now brings readily from twenty-two to twenty-eight cents per pound; and even at twenty cents it is a better paying business than grain raising. Again, the manufacture of milk at home saves the three or four cents per pound, which has been paid the factory butter-maker, and a better article can be made from the milk of one dairy, properly handled, than is possible from the milk of several dairies, because you cannot convince the average owner of cows of the necessity of good foods and care.

In general, it enables one to market his grain on the farm; to make a finished article and a gilt-edge one, and to set his own price on it. That alone is satisfaction enough for me to pay for all the extra trouble and pains to be taken.

Now, what are the requirments for profitable home dairying? Perhaps my best way will be to tell what it has required of me. I have been engaged in this business on a small scale for twenty years, and the greatest thing I have learned is that I have a great deal to learn still. Until about eight years ago my cows were kept as most farmers keep theirs to-day — mostly to consume the hay and cornstalks grown on the farm. As prices of farm products became lower I found I must do differently or go out of the business.

I thought it all over carefully and made up my mind that I must keep cows, and that they could be made to pay. I was in debt for my farm, but knew that the success of the thing depended on cheaper production, and that meant better cows, better care and better dairy apparatus. I then bought a creamer, and subscribed for Hoard's Dairyman and some other papers in order to find out what others were doing and how they were doing it. My cows were a mixture of all kinds and made about 150 pounds of butter each per year. I bought a thermometer, and, when I thought we were making a good article of butter, began looking for something better than market price. I found a man who liked our butter and was willing to pay for it, if he could know that it would be of the same quality all of the time. Then I bought a stencil, stamped my name on each package and guaranteed the butter to be first-class. That man has my butter to-day, and what is better, he wants it.

I became more interested all the time, and finally purchased a pair of scales and hung them in the stable, and began weighing the milk. Instead of letting my cows stand out doors in cold weather I arranged to have water right in the stable, and my cows were not allowed out much. Of course, by this time, I began to feed quite an amount of grain, and I continually heard this: "How long will your cow last if fed like that?" and, "I don't believe in keeping cows confined in the barn too much," and I did not know but I was making a mistake, but will say that I never have had a sick cow since I commenced what I call progressive dairying.

The more I read and the greater my success, the higher I aimed, and wanted to improve my stock by breeding. I placed my figures at 300 pounds of butter per year for each cow, and, in order to know just what each did, I bought a Babcock test. I found I had no cows that tested less than 4 per cent. of butter fat, while some tested over 5 per cent. Before this, I had changed over to winter dairying, and two years ago last October, my cows being all fresh in milk, I began a year's experiment in order to know just what each cow was doing. I weighed each cow's milk twice a month and kept a record of the same for a year. I did the milking and weighing myself. In fact, I gave everything my personal attention. The cows gave from 5,000 to 7,000 pounds of milk each, and earned me, in the sale of butter alone, seventy dollars each.

My grain ration consisted of a mixture of five pounds wheat bran, five pounds of corn and cob meal, two pounds linseed oil meal, and one pound cottonseed meal. The cows are fed of this, eight to twelve pounds each, according as they will pay for it, with what cornstalks or hay they will eat. They are not allowed out in any storms at any time of the year, and are kept in the barn every night in the year, and in the winter go out of doors but very little. My stable is warm, well lighted, and gives over 500 cubic feet of air space to each cow.

I will give my method of caring for the cows each day. I don't say it is the best, but it gives me good results.

The cows are milked at 6 o'clock in the morning and the milk taken to the house as fast as a pail is filled. If any roots are fed they are fed immediately after milking, and then I give them stalks or hay. I now have a cream separator, and the cream is separated as soon as I get the cows fed. After breakfast the stables are cleaned and sprinkled with land plaster, the cows carded, brushed and watered in the stable, and, if through eating fodder, are fed grain. I then leave them until 4 o'clock in the afternoon, when they are watered and fed grain, the stables well cleaned and cows well bedded with straw, milked again at 6 o'clock and are then fed fodder.

These things are done regularly, and I want to say that, unless one will be punctual in caring for cows the business will not pay. After the cream is separated my wife handles the cream. It is cooled down to forty-five or fifty degrees, and every other day is ripened and churned. I use a barrel churn. Butter comes in six to fifteen minutes and is washed and salted in the churn. After standing in the churn until the salt is dissolved, the butter is worked once and packed in whatever kind of package is best liked, and sold every two weeks. I have one native, four grade Jerseys, one full-blood Jersey cow, two half-blood heifers and four half-blood Jersey calves. I shall work entirely into Jerseys, as I think it pays to keep cows for butter-making that are specially bred butter cows.

We have never had any difficulty in churning, nor any fault found with the butter. Years ago, it cost me about thirty dollars a year to keep a cow, and they paid from thirty-five dollars to forty dollars each. Now it costs about forty-five dollars each a year, and they pay from seventy dollars to eighty dollars each. My corn is fed on the farm; my oats traded for bran and oilmeal, and the money product drawn to market in a spring wagon. My farm is growing better each year, and my views of farming have improved. This year I intend to build a silo, and then I believe I can do still better. These things are not told to boast of, but to show you what anyone can do who will give proper attention to the details of the business.

Years ago when I read of cows earning $100 each in a year I said that is "book talk," but to-day I will say that I do not know what the limit of a good cow is.

There is Profit in Dairying at Present Prices.

FRANK A. HOUGH.

Assuming that this question will be discussed from both sides, and also knowing that so many farmers advocate the unprofitableness of dairy farming at present prices, we thought we would take the affirmative of the question. Another reason for our taking this side of the question is, that we are not entirely discouraged as regards the profits of dairy farming. It is our purpose to discuss the subject fairly. Therefore, we acknowledge the truthfulness of the statement that dairy farming, like many other occupations, is not as profitable as in former years. If I was here to discuss politics I might attribute this fact to governmental affairs; that it was a lack of confidence; that capitalists are hoarding up their money; that manufacturers have shut up their mills, and the laboring man is out of employment, and, consequently, cannot buy so liberally of the products of the farm, and a surplus and low price is the result. Be this as it may, we attribute the depression in dairy products, like many other branches of business, to the abundant and sharp competition which we are obliged to face. The wool growers of this country have been driven to the wall on account of this competition.

The grain States that a few years ago met in competition with the farmers of this State, have to compete to-day with their sister States beyond the Mississippi. And all the countries of the world seem to have joined with each other in trying to down farmers of this country in the matter of wheat. Russia, India, and the Argentine Republic have opened up their wheat fields in competition, and as a consequence, at reduced prices.

The manufacturers of iron and steel goods are forced to meet each other in such sharp competition that they are obliged to be ever on the alert. For instance, the manufacturers of farm machinery — the McCormick, the Deering, the Osborne, the Buckeye, the Wood, and a thousand and one others — have to come into such close competition that it is anything but as pleasant or profitable as they would desire, even from the large manufactories that cover acres of ground, down to our local agents, who have to compete with each other in efficiency, durability and style of machinery.

I do not claim to have a knowledge of dairy farming, or a dairy of cows superior to other men of this town and vicinity, but I hope to be able to show you that there is a profit in dairy farming at present prices.

Any of you who are of an observing mind cannot fail to notice that it takes our dry goods merchant longer to get rich than it did ten or twenty years ago. Competition has forced him to sell at a less per cent. of profit; he must meet his bills at ten days if he secures a discount; trust out some of his goods, and, if he does not have any poor debts he is fortunate beyond the majority of men in his business. The grocers of our time are not as independent as they were years ago, when they could put in their commodities in lots to suit themselves, and their customers came as a matter of course, purchased and carried away their goods. Now competition has compelled him to buy flour, salt, kerosene, etc., in car lots and other things in proportion. Then, if he is thrifty and up to the times, he must go out with his covered wagon and solicit customers; next he must deliver his goods, and if one of his customers happens to find a bad egg or a poor yeast cake, he must meet all the accusations and frowns with a smile and close up his day of fifteen hours, from which many a farmer would shrink. So it is, the wool growers, the grain raisers, the iron and steel manufacturers, the wood workers, the cotton and print manufacturers with their designers and carvers, the dry goods merchant, the grocer, and the dairy farmer, besides an innumerable throng of people engaged in various other pursuits of life, from the professional man down to the peanut vender, must come and bow to the great monarch, "competition." So my fellow dairy farmer take courage, for there is yet for us an honest dollar.

Now with reference to this dairy farming, the solution of the question is maximum quantity at minimum cost, or in other words, make the cow produce the greatest possible amount at the least possible cost, and in order to do this we must dairy twelve months in the year. If we feed a cow so as to cost fifteen dollars a year for her keeping, and she returns us fifteen dollars, besides keeping up her system, we are out the natural decay of the cow, besides the time spent in caring for her. But if we feed a cow so as to cost thirty dollars a year and she returns fifty dollars, we have an indirect profit of twenty dollars per cow, and this is no fancy picture, but it can be done with any average cow in the country. You are all familiar with the story of the cow that produces the fifteen or twenty dollars; about the cold barn, where you have to bring into use the pick and crowbar to loosen up the manure, and sometimes the cow; then, after she has had a ration of hay or straw, she is turned out to fill herself with ice water, after which she is left six or eight hours on the sunny side of a barbed wire fence. Of course, she has been dry all this time, and we don't expect she will come into milk before March or April. Then there is one good feature about her. She will not be likely to have caked udder or milk fever, or anything of that nature, and that is about all the recommend she will bear.

We will now introduce the cow from which we claim a profit, and right here we would ask the question: What time of the year, and from what feeds, and under what conditions can we get the most milk at the least expense? You will all agree with me, I believe, when I say that, other things being equal, we can produce the most milk at the least expense in the month of June. One question answered makes room for another, and we would ask why is it that, other things being equal, we can produce the most milk for the least money in the month of June? In answer to this we would say that it is because everything is most congenial to the requirements of the cow. The grass is abundant, succulent and juicy, easy to masticate and digest. On account of its abundance the cow does not have to roam over a vast amount of territory in order to satisfy her appetite. The weather is congenial, she feeds quietly, lies down at her leisure, and is subjected to no severe changes of temperature. Now, if we have found the conditions under which the cow is most remunerative, and if our motto is maximum quantity at minimum cost, it should be our aim to keep the conditions and surroundings of the cow as near those of the month of June as possible.

But we being so far north, and our latitude seems to be a fixed condition, it is useless for us by any natural means to try to change the times or modify the seasons; therefore, if we would do anything along this line it must be artificially, and to this end we must center our energies. You will observe that, on or before the first of July, your cows will begin to drop off in their milk, and right here you must commence your artificial work, by having a piece of peas or oats or an early piece of sweet corn convenient to your barns, for soiling purposes. The value and economy of forage crops is becoming better understood by dairymen each year. Large rolling and rocky pastures alone do not favor the best results in milk production. There is too great a waste of animal energy while tramping about in search of food, and being tormented by flies, and at the same time elaborate a large amount of milk. The farmer should learn to prevent this waste of energy and direct it all to profitable production by keeping the cow furnished with an abundance of succulent food. We do not advocate any particular time to have cows drop their calves, but would call any time between September 1st and May 1st a good time, and preferable to the hot months of midsummer.

Now, as winter approaches, and you desire to keep up the flow of milk at the least possible cost, the silo is indispensable; for by feeding forty to fifty pounds of good silage per day in addition to good clover hay and a little grain, with a barn at a temperature of from fifty to fifty-five degrees, and water about the same, to which she can have access at all times, a good bed to lay upon, some carding and kind treatment, she will give as much milk in January as in October or November.

This question is often asked: Do the cows milked through winter do as well the next summer? I believe from actual comparison a cow that is kept as I have described will do enough better the next summer to pay for all the extra trouble and cost. The food fed to cows, after keeping the bodies in repair, is either converted into milk or deposited in the form of fat to be used to replenish their own bodies as it may be needed. My cows have been brought to make milk at all times of the year and with but little grain. We are able to produce milk in winter at nearly the same cost as in summer, if the cow is kept in the same temperature in winter as in summer and fed the same food, with only the water dried out. With my way of furnishing water, the results will be nearly the same. But if cows are compelled to stand where the mercury is a little above thirty-two degrees, and keep up the warmth of the body with food and warm the water from ice up to ninety-eight degrees to make this milk, the amount of food consumed makes the profit seem small. As for the health of the cows, it is much better to keep them at about the same temperature and not subjected to the changes consequent to being turned out of a warm barn. Some dairymen think their cows must go out in the cold and walk around to keep healthy, but all the additional health or comfort a cow receives standing out in the cold until the icicles form on her eyes, is to me hardly perceptible. Her hair will be rough, long and coarse, and if she sheds it before the next July she will be fortunate. On the other hand the cow that is kept in a warm barn, and treated as we have described, will have shed her hair long before going to grass, and will go out in condition to repay you for all the care you have given her.

How to Care for Milk.

E. L. Haynes.

The subject before us is one of the most important factors that enters into the dairy life of the average farmer. It is nearly his whole stock in trade; his success to-day depends upon how skilfully he can manipulate his dairy to increase the flow of milk while he curtails the cost of production. And, as it is the most salable product the farmer produces, it is of real interest to him that the milk be kept in proper condition until its delivery.

The care of milk should begin before it is secreted, for unless you start right you will encounter hidden rocks along the dairy pathway that will make the farmer's ledger show up a trial balance on the debtor side. First of all, he should have the environments of the stable suitable to the wants of the dear old cow that has been the mainstay through all the past; it should be well lighted, well ventilated and with a goodly supply of fresh air, free from stable taint, with an excess of litter for bedding, and with nutritious food, the farmer is on the road to success.

But to have all the conditions mentioned progress will be slow, unless the injunction which the Good Book records, " Man shall live by the sweat of his brow," is transformed from the common idea of physical labor to the divine creation—thought; and when we, by mental exertion, succeed in starting the sweat upon our brows then it is that we progress and our minds are receptive and improvement begins along the dairy highway which leads us into the avenue of the care of milk.

The farmer should be regular about his hours of milking and feeding, be kind and gentle to his stock, and create an affection for them so that, when he commences to milk, his peace of mind will not be harassed by a kick in the short ribs and the loss of a pail of milk and several cuss words. When the affection is complete all is harmony. The udder and bag should be neatly cleaned and the milking done with dry hands. As fast as milk is secured it should be carried out of the stable into the pure air or a room set apart for the milk. It should then be carefully strained through several thicknesses of fine cloth to remove at once all dust and filth that have accidentally reached the pail, and then should be aerated either by stirring thoroughly or over any of the new styles of aerators now in use, to set free from the milk the gases, foreign odors and animal heat which it contains, and to gradually lower the temperature to a point where decomposition will be arrested and where the changes will be slow; this point is usually reached when the temperature is 55 to 58 degrees. If the night's milk is to be held over until morning for delivery, the cans of milk should be submerged in spring or ice water to a depth of two inches above the cream line or top of the milk in the can. A very erroneous idea seems to prevail that if the can is one-half submerged in water it will be O. K.; but such is false, for cream or butter fat, of all the component parts of milk, is the first to sour and should receive the best care. Now the cream that raises on the can during the night above the outside water level will be exposed to the air on top and sides and its temperature will be nearly the same as the surrounding air, and were the night warm enough the cream would be sour and the milk sweet. Hence, you will readily see the urgent necessity of keeping the cream or cream line below the water level on the outside of the can where the changing conditions are normal. Then, when ready for delivery, it should be placed on spring wagons and properly covered to exclude heat and cold, and delivered in such a condition that its temperature has remained the same during its transit. If these suggestions are followed out the milk-shipper, factory and creameryman will have a product that will manufacture up evenly or endure the long journey of 240 miles in a perfect condition.

I wish to impress upon this audience the importance of thorough aeration of milk, and I wish to be pardoned if too personal in its application, for all my knowledge has been gathered from the use of the large aerator which I placed in my creamery last spring. I will explain its construction and operation for the benefit of those who have never seen one. It consists of sixteen thin copper tubes two inches in diameter, tinned on the outside, and sixteen feet long, arranged one tube above the other, and the ends connected in such a manner that spring or ice water connected to the bottom tube will flow its entire length, come back through the next higher and so on until the top tube is reached, where it is conducted to the drain or back to the ice pool to be chilled again and sent on its circuit route by the use of a rotary pump. The milk is fed into a V-shaped conductor running the entire length of the aerator, in the bottom of which are fine holes that feed the milk into the tubes, where it spreads out into a thin layer and runs around each tube, where it is ingeniously gathered into small streams where it can be bottled readily by placing bottles in position or the milk can flow into the pan under the aerator and be drawn into cans or vats. You will note that the coldest water is in the bottom tube and the warmest at the top, so when the warm milk flows on it comes in contact with water about 60 degrees, and as it passes down it will leave the last tube at 40 degrees, if ice water is used, thus insuring you a sweet-flavored milk free from foreign odors in the main. Fresh milk will not only contain the animal heat, but such odors as are imparted to it through injudicious feeding, unsavory foods, contamination from the stable odor and fine bulk manure that will wend its way through the finest cloth or woven wire into our cans, where it settles, and when retailed in the cities the customers will remark, that the " Farmers are feeding buckwheat bran and it comes through whole." All the above-mentioned odors except the last, are in the form of gases which will readily pass off the milk if aerated while warm. If new milk is allowed to set in a can in a pool or in the atmosphere for a length of time the cream will raise and form a close seal over the milk below, and as these gases try to escape the seal they cool and liquify and immediately unite with the milk globules, and no amount of agitation or aeration will free that milk of odor after such treatment. I noted during the hot weather as the milk of the different dairies flowed over the aerator there was a wide difference in the odors the machine gave off, and a most decidedly cheesy odor would be thrown off the night's milk that had been poorly staid with the night before and whose temperature had been allowed to remain above sixty degrees all night. Such milk would sour in ice-water before twenty-four hours old, and if aerated and iced would last forty-eight hours. My experience from a manufacturer's point of view is this: The farmer should provide means of aeration; the creamerymen cannot afford to do without them, for, during the past year, with its intense heat, I did not have a can of sour milk returned from New York, and in former years my annual loss in that line would buy an aerator each year.

Too much cannot be said about cleanliness in the care of milk. It is the only rule that will aid in the keeping of milk, and all pails and utensils used around milk should be first rinsed in cold water, then washed and thoroughly scalded by water or steam and left in proper condition exposed to air and sunlight.

Again, too often the milking and its care is intrusted to incompetent and uninterested parties and the milk is subjected to a sink-or-swim treatment, which is equal to caring for itself under all conditions, and when it is delivered to be manufactured or shipped it is on the fast road to decomposition, which is the fruitful source of many complaints of poor milk, butter and cheese. Yet this is the worst evil a creameryman has to contend with and his only weapons of defense are a vigilant eye and a trained nose. And yet with most careful scrutiny milk will sometimes pass inspection and to all outward appearances be right, and when the crucial test is applied of holding it for forty-eight to fifty-six hours we discover taints have grown until our milk is off flavor and rejected.

And, now, in closing: Could we by any simple process exclude micro-organisms from all milk our talk would be rounded out and the care of milk solved.

Scrub Farming.

J. O. Wadsworth.

The word "scrub" will naturally suggest different things to different people. To me it recalls memories of my early boyhood, before I had ever been impressed with the idea once expressed by Henry Ward Beecher, that "Cleanliness is next to Godliness, therefore, soap is a means of grace." The word recalls memories of those early days when my mother, fearing that I would not be thorough enough with my ablutions, would take the job in hand, and, with the wash-rag over a hairpin, proceeded to drill out my ears. Did I enjoy it? No. Did you ever see a boy who did enjoy being scrubbed?

To the feminine mind the word "scrub" suggests visions of scrub-brushes, mops, backaches, lame knees, etc.; but it was not of this sort of scrub that I intend to write. It may, perhaps, be well to state that much of this household drudgery might be avoided if the male members of the family would scrub a little more vigorously on the mat at the kitchen door. It is not necessary that a man should track mud all over the house simply to impress upon visitors the fact "I am boss here."

The word scrub, that has become so familiar to us all, of late, is a very comprehensive one, and applies to anything that does not attain to within a reasonable degree of its possibilities, and this is the kind of farming many of us have been doing. It is no particular system of farming, but represents more nearly the absence of system. We can't plead ignorance of the fact that we have been doing this sort of business, for there are unmistakable signs that we can tell by. Here are some of them: We allow the winters to pass without making the necessary preparation for spring work, and so are not ready to begin our work with the season. Behind in the spring, we are hurried by our work and are usually behind all through the season; but this does not worry us much. We plow around stumps and big stones year after year, which a few hours' work would remove forever. We plow through mud holes and harvest a crop of weeds when, with a few tiles and a little labor, we could grow the heaviest crops to be found on the farm, and very often the increased value of the crop would pay for the improvement in a single season. We don't mow our road sides or fence corners, and our grass is allowed to get overripe before it is cut, and then we let it bleach in the sun and dews.

Anyone passing our farms knows that we are farmers, for our wagons and implements all stand out as evidence of the fact. Many of us have barn-room enough to shelter them, but it is handier to leave them outside, so that we can get to them in a hurry when wanted. I know a man who, after cultivating his corn, left his cultivator in the field and hung his harness on the fence. At midwinter the harness was still on the fence, and when his corn was fit to cultivate the next year he could lead his horse to the field and be ready for business; everything being handy.

Here is another sign that we are scrub farmers: We allow our wives to hunt potato bugs, and, if they refuse to do this, we let the bugs have the crop, and buy potatoes of some neighbor who has more gumption or a wife who will hunt bugs. Paul says in his letter to the Corinthians: "Wives, if you would learn anything, ask your husbands at home." And the most of us believe that Paul's views on this question are sound; but a few of us think that his statements are somewhat contradictory, when he says: "It is not good for a man to be alone." I suppose he means that it is not safe, as he might patronize some new "shell game," or subscribe for the "Land Marks of Wayne County." He never indulges in these foolish notions when his wife is with him.

Have any of you ever noticed that when a man sets out deliberately to indulge in something he is sure to be ashamed of afterward, he never takes his wife with him? But I am drifting away from my text.

Another sign that we are scrub farmers is that we allow our wives to go to the woods, through the broiling sun of a summer afternoon, and pick a few berries for tea, when, at a trifling expense and a small outlay of labor, we might have established the family fruit garden within a few steps of the kitchen door. And now, friends, if any of you have never experienced the enjoyment that is derived from having an abundance of fresh strawberries on your table three times a day for a month, you, of course, don't know what you have missed. Last year we had fresh strawberries for six weeks—from June 5th until past the middle of July. The earliest berry we have is the Leader; the latest is the Parker Earle. I picked a ripe Parker Earle October 10th.

I have practiced scrub methods quite extensively myself, but occasionally I blunder on to something that is worth telling others about, and this I did last year, in the care of my straw-berry bed. If you are not situated so that you can cultivate strawberries in with your regular rotation of crops, and so have a new bed every year, you can make a bed perpetual in this way: If you have more than one row, leave them four feet apart, so that you can have matted rows two feet wide and still have room to cultivate between. During the first season give them absolutely clean culture. Don't let a single weed go to seed, and none should even be allowed to go to seed in after years; but, if we observe this precaution in the first year, it will not be so difficult in the years that follow. In the spring of each year after the first, thin the plants in your matted row so that no two will be within four inches of each other, and perhaps six inches would be better. When there is much rain about the time the berries ripen they will be kept cleaner if the bed is mulched with cut straw, chaff, buckwheat hulls or any like material. Last year we had no rain, and I didn't mulch our berries, except with Mr. Terry's earth mulch, which did its business very nicely in conserving moisture, and we secured a fine crop. After picking was over I took a sharp cultivator and cut the rows back to six or eight inches wide. The few plants left in the rows threw out runners and established the wide matted row again, which, when winter set in, were looking just as promising as they did a year ago; and I believe that with the proper use of fertilizers this method can be carried on indefinitely. But to return to our text.

We keep hens and allow them to roost in the trees or on the wheel rake, fanning mill or new binder. Many of us have some kind of hen-house, but when the warm weather arrives the lice drive the hens out. We occasionally have a season of awakening and introduce new blood into our flocks by swapping eggs with some neighbor who has a lot of ring, streaked and speckled hens no better than our own. Our hens lay some eggs during the spring and early summer months when they can pick up for themselves the foods necessary for egg production, but the hens make their nests in some brush heap or among some luxuriant burdocks. The eggs are not regularly gathered, and often when we take them to market, twenty-five to forty per cent. are found to be bad.

I know of a flock of thirty-five Brown Leghorns, hatched last May, that, during the month of December, laid as many as twenty-six eggs a day; but they didn't roost in the trees and are not kept on an exclusive corn diet. They are fed a morning mash of boiled potatoes, wheat bran and ground oats, a little cornmeal and table scraps, with an occasional feed of chopped beets, turnips, apples, cabbage, etc. Their grain feed is mostly whole wheat, with hot corn as a night feed, when the weather is cold. They have a commodious scratching room with plenty of sunlight, and have access at all times to ground bones and oyster shells. The droppings are removed from beneath the perches regularly every morning. Precaution is taken against lice by giving the perches an occasional application of kerosene, to which has been added a little carbolic acid. Now, don't any of you think I am bragging, for these hens don't belong to me. They belong to my brother, and the care he gives them he learned from the "Practical Farmer," "Rural New Yorker" and "Farm Journal." But let us return to our text.

We are scrub farmers because we keep cows, and I use the word "keep" advisedly, for we do keep them. They don't keep us, because the average cow of the State of New York doesn't pay for her board, but we have been educated to believe that this is the kind of cow we must keep so that we can raise veal calves, and when, by reason of old age, she fails in this capacity, we can get a fair price for her old carcass from the butcher. We never have figured very much for fear it would upset some of our pet theories, but now let us figure a little. I have a Jersey cow fifteen years old, that has been condemned by some, because her carcass is too small for beef and her calves too small for veal. When she is fresh in milk she will make one and one-half pounds of butter a day; and, in six weeks—not taking into account the first four days that we did not save the milk—would make fifty-seven pounds, which, at twenty-five cents per pound, would be worth $14.25. It would be a pretty good scrub calf that would bring that price when six weeks old, wouldn't it?

Now let us figure on the beef side of the question. Statistics show that the average cow of the United States makes but 130 pounds of butter per year, but we will be fair with the scrub cow and give her credit for 150 pounds, and pay her 23 cents a pound for it, which is the price ours netted us last year; this would amount to $34.50. Our old Jersey makes 300 pounds, which, at 23 cents, would be worth $69, a balance in favor of the Jersey of $34.50 per year. The old scrub would have to be in pretty fair condition to bring that amount in beef, wouldn't she? But we can only realize on a cow once for beef, and that is at the close of her career, so we must consider her life's work Our old Jersey has been in actual service thirteen years; but, to be perfectly fair, we will not take into account her first year's work. If she did any better than the scrub this first year, we will throw that in to make good her average in the following years, leaving us twelve years to figure on. The average for this time would be 3,600 pounds, worth $828, while the scrub would have produced but 1,800 pounds, worth $414, leaving a balance in favor of the

Jersey of $414, which would buy quite a chunk of old cow beef, wouldn't it?

But I am wandering away from my text. If any of you desire to call on us scrub farmers, you can easily find where we live, for our sign is always out. In the early autumn, if you see a field in which there is a rampant growth of weeds, with here and there a small hole in the earth, as if some one had been digging for something, that is our early potato patch, and one of us lives near there. If you see a few old rails and a rickety sawbuck, with, perhaps, a woman endeavoring to saw enough wood to get dinner with, that is intended to represent our woodpile, and one of us lives there. If you see, near a house, a patch of luxuriant weeds, with here and there a few weather-beaten cornstalks and a few stunted and discouraged-looking cabbage plants, that is where we planted our garden seeds last spring, and one of us lives there.

But, after being guided by the above signs, you enter the house and are still in doubt, you may look for an agricultural paper. If you find none, you may be sure that you have struck the right place. Some of us believe that these papers are gotten up by some city fellows, who couldn't tell a Jersey cow from a canal mule. Some of us think that we can't afford to take agricultural papers, and that we wouldn't have time to read them if we had them. But, perhaps, if we would quit gossiping with our neighbors and devote a part of the time which we have formerly spent in this contemptible business to working out some progressive ideas, we could earn enough to pay for several agricultural papers and have time enough left to read them. Some of us claim that the subject-matter is not always seasonable and would be forgotten before needed. If any of us should fall into the mud, some of it would stick to us, and we couldn't help ourselves. So it is, in coming in contact with ideas we can bring before us through the medium of the agricultural papers, the better we will be prepared to solve the problems that lead to success, and, although our success in life may not always be measured by the dollars we hoard away for coming generations to quarrel about, one seems better satisfied with himself, his face is not so long, his countenance is brighter and more amiable, when, at the close of each year, he is able to lay by something in store.

But success doesn't come along scrub lines, and it is to learn the better way that we have attended this Institute. If the practical and successful farmers whom the State has sent here to instruct us succeed in making some new ideas stick to us their labors will not have been in vain.

Selection of the Dairy Cow.

JONES WILCOX.

Let me first say a few words relative to dairying as a specialty. Farmers may be divided into two classes. First, those who may be called specialists; who believe in making some one branch a specialty, so as to be able to study that one branch and know it thoroughly. And, secondly, those who believe in mixed farming. I do not know of a good name to call this class, but they exist, nevertheless, and believe in having a goodly number of sources from which an income may be expected, so that if one source fails they will have something else to fall back on for expenses, instead of becoming bankrupt in one year, as they claim a specialist is liable to become.

Each of these two classes have one strong point and one weak one. The point to the former class is that by concentrating your attention you have an opportunity to thoroughly learn your business and get it down to a fine art, so to speak. Its weak point is that you have practically but one source of income which, if your specialty be some farm crop, potatoes for instance, is quite liable to prove a total failure, and may be serious if you go into it heavy. Should you make potatoes your specialty and concentrate all your forces on that specialty, you would probably as a rule be successful; but should one of a number of conditions transpire you would, if you went into it extensively, be able to sink a considerable fortune. The strong point of the latter class is that it is safe. If one crop fails you will probably have another which will help you out. Its weak point is that if you follow a number of different lines you will not be able to study any one line as you ought and cannot expect the best results.

Now in regard to dairying, I claim for it that it combines both of the strong points of the above-mentioned classes and has neither of their drawbacks. That is, you can have the advantage of making a specialty of your business, learn how to get the very best results, and at the same time have a business that is practically safe, for there is no line of farming that is more certain of bringing in some income than is dairying. I do not believe there is anyone here who had not rather run the chance of getting an income to pay running expenses from a dairy than from any crops from the soil that you might combine.

The principal reason why dairying at present does not pay better than it does is because we keep too many poor cows that don't pay for their own feed and are a continual loss to their owners every year they are kept. They help eat up the profits that the other cows make. If just about one-third of the cows in New York State (the poorest ones) were sold to the butcher the remaining two-thirds would bring in a net profit far above the net profits (or perhaps the minus profits) which our dairies now yield.

But the question arises which are your poorest or most unprofitable cows? And that, I claim, is a much more difficult question to determine than some may suppose. At first, though, one might think it would be a very easy matter for the owner to go through his herd and tell just which of his cows gives the least milk and which the most; but, if you have a herd of twenty, I will venture the statement that we can't do it with any practical certainty unless you have used the scales with some regularity for the whole year. If you have thirty cows, and have not weighed their milk separately for the year, I claim that, unless you possess uncommonly good judgment and powers of observation, you cannot select your ten poorest cows, your ten intermediate cows and your ten best cows, without getting some of your ten poorest into your best class and some of your best cows into your poorest class; in this respect I mean, simply in respect to the quality of milk for the year. But here is one thing I will venture to say you do know, and probably very accurately, you can tell which cow in your herd gives the most milk, and which the least in flush, and you can grade them without doubt very accurately with reference to the quantity of milk they produce in the month of June while they are in flush, and you would probably grade your cows from this standpoint. But your grading will be very faulty. The cow that stands down near the poorest end is most likely the cow that has never given a large enough nor a small enough quantity in the flush to attract your attention, but she may be the cow that holds out a fair quantity throughout the whole year, and with good feed may not go dry more than two weeks during the year and give considerable more milk for the whole year than the cow you have placed at the head of the list, which produces a pailful and a half at a milking for one week in June and then goes absolutely dry for from four to five months in the year. Now I claim that the only practical way by which you can determine which of your cows are giving enough milk to pay for their feed is by weighing each cow's milk separately with some regularity for the year. But don't start out to do this until you have things conveniently and thoroughly arranged for it. If you start out with unhandy scales in the farther end of your barn or some adjoining building, without a book in which to keep the weights in a convenient form and place, and weighing separately every milking of each cow, nine chances to one you will give it all up inside of a week, unless you are of uncommon perseverance. But, if it be looked into a little before you start, you can so arrange things that it will be but a little extra work to obtain what data you need in order to find out just what your cows are doing, and, if you will allow me, I will be somewhat personal and will go somewhat into details, because the details are what I consider the most important, and if they are not conveniently arranged and planned it will make the work laborious and the chances are that it will soon be discontinued. In the first place it is not necessary to weigh the milk but one day in each week, for you can take that one day for a fair average for the week. It will, of course, not be absolutely accurate, but will be practically so. In our herd we weigh each cow's milk separately every Wednesday morning and night throughout the year, and take that for the average for each respective week. In this way you can readily see that we can figure very closely to just what each cow gives for the whole year. In the way we have it arranged it is but little extra work; not near as much as might be imagined. Right in the center of the barn, where the milk-cans set, we have a small desk on which is kept a book containing each cow's name, and, opposite the name, spaces for marking down the weights. Just beside the desk hangs a pair of scales and a weigh-pail with a hole in the bottom containing a cork. This pail hangs on the scales just high enough to be above the top of the milk-cans with the strainer on. The milk of each cow is then poured into this weigh-pail and the scales are so balanced that they will indicate the exact weight of the milk so that you need not subtract the weight of the pail. With no milk in the pail the indicator is at naught. Before we had it balanced in this manner we had to subtract the weight of the pail each time, and, as the men we had for milkers were, unfortunately, not always mathematicians, we experienced a little inconvenience. Now all you have to do is to observe the weight, as indicated at once by the scales, and mark it down opposite your cow's name on the book which lies open on the desk at your right. Then pull out the cork by the string attached to it and let the milk run out of it into the strainer while you are milking your next cow. About all the extra work is the marking down of the weight and pulling out the cork. It is just about as easy to pour the milk into this pail as it would be to pour it into the strainer. From the weights thus obtained figure just how much milk each cow has given for the year and it will be a source of continual surprises. You will find that many of your cows that you supposed to be among your poorest are among your best, and many that you supposed among your best are among your poorest. But this is not all you must know to determine which cows are paying for their feed. Unless you are selling milk by the pound or gallon you must know the richness of the milk of each cow, and to determine this the Babcock test is by far the most practical method. Then when you have the percentage of fat as given by the test in each individual cow's milk, and also know the number of pounds she has given for the year, you can very easily figure the number of pounds of butter she will make and can determine accurately just what her income is.

Then, after you have found each cow's individual income, you must have some way of determining each cow's individual cost of board, for there is just as much injustice done in figuring the cost of keep of all the cows at the same price as there would be of figuring all the cows as giving just 5,000 pounds of milk in a year. It is a mistaken idea that a cow has got to be a big eater in order to be a big producer, for a cow may be a small eater and yet digest her food so perfectly as to be a good producer. You must know the cost of her food and the number of pounds of butter, so that you can figure what the butter costs you per pound, just as you would figure were you running a manufacturing business.

To weigh each cow's feed separately every day would of course be impractical for the ordinary farmer; and it is not necessary, for you can arrive at an approximate which will do for all practical purposes in an easier manner. An estimate can be arrived at in this manner: We figure in the way we feed our cows, if we bought all our feed at the retail prices, it would cost thirty-six dollars a year to keep the lightest eating cows we have, and from this we get a ratio for the whole herd. A cow that eats one-third more than the lightest eater we would figure at forty-eight dollars.

We cut all our coarse feed, dampen it and thoroughly mix it with the grain. We feed three times a day and use a bushel basket, feeding each cow as much of this mixture feed as she will eat up clean. We find in our herd that this amount varies all the way from three-quarters of a basketful to nearly a basketful and a half, or a bushel heaped up full, showing that it costs twice as much to keep some of our cows as it does others. After a little practice one can tell very accurately just how much each cow will eat up clean. I can tell within a handful just what each cow in our herd can eat and eat up clean. Then, as I said before, we take thirty-six dollars as representing the cost of keeping the smallest eaters and estimate from that each other cow in the herd. The estimates for keeping each cow in our herd for one year runs something like this: Thirty-six dollars, thirty-eight dollars, thirty-nine dollars, forty-two dollars, forty-five dollars, fifty-one dollars, fifty-five dollars and up to sixty-five dollars as the highest. These figures, of course, are not absolutely correct but they are a very accurate estimate. The principal thing is that the proportion between the individual cows is right, for bear in mind the important thing we are after is to determine which are our best cows and which our poorest cows under the same conditions. Now from this data, the number of pounds of milk for the year and the percentage of butter-fat, figure the number of pounds of butter and then, from the cost of keeping the cow, figure how much it costs to make a pound of butter with each cow in your herd, and then get rid of all cows that are costing thirty cents a pound and keep all those that make it for fifteen cents a pound; and there are but few farmers who haven't got some cows that it takes thirty cents worth of feed to make a pound of butter and other cows that it takes but fifteen cents worth.

Some claim to be able to select the best dairy cow with their eyes. I must confess that I am not able to do it, nor do I wholly believe that some others come as near it as they profess to.

There are many other minor points to consider in selecting the dairy cow; but the three principal points to know are the quantity of milk for the year, its average richness, and the cost of her feed; or, in other words, use the Babcock test, the scales, paper and pencil.

Thoroughbred Sheep: Their Place in this Country.

Dr. C. D. Smead.

I am glad to-day that I live in a country that is long enough and broad enough for all of the breeds of the earth to dwell upon and not crowd each other, and I am glad that I live in a country that is better adapted for the breeding of sheep than any other country upon the face of the earth; I am glad that I live in a country whose rulers are given their position by the people, and when they cease to rule wisely, the people are learning to relegate these rulers to the shades of political oblivion. But this is to be a thoroughbred sheep address and it is to be but twenty minutes long, and in that space of time I am to assort the various breeds and assign them a place upon some farm, right here in the State of New York; other States may have equal advantages, as regards sheep husbandry, but New York has as varied a soil as any, so I am not going outside of the State to find a farm and farmer, at the present time, that I can trust my sheep with. I can't have any half-way work in this business. Each different breed must go to a farm that is adapted to that particular breed, and they must be placed in the hands of a farmer who *loves* a sheep and he must also love that *particular* breed of sheep, for if he does not admire them he will neglect them; he will be constantly neglecting to furnish the little comforts of the animal; he will also soon neglect to feed and shelter them properly or as their needs require, for, bear in mind, that selection, proper food and environment has been the means used in creating all that there is of merit in any of my breeds; so we see that the animal is but the reflection of some one, or rather, *many* men's intellect, who have for years carefully studied their habits, directed their mating, and, by carefully selecting and carefully feeding, these animals have firmly fixed the type that has given them renown and all the merit they possess, and in order to *maintain* this merit, these several breeds must be fed and cared for along the same line that *created* merit in them or they will lose it. So I can't afford to let any of these breeds go into the hands of a man who won't look after these things, or who is totally ignorant of these necessary attentions, else my sheep will run down upon his hands and both he and I will lose the money that we put in the business. The scrub man is only fit to handle scrub stock of any kind, and until the Farmers Institutes, granges or farmers' clubs can educate him, or Cornell University educate his sons so that they will better care for their sheep, they can have none of my pure bred sheep; and as I have no scrubs, they must go without sheep, or continue to get scrubs of some other fellow, and continue to "scrub it," and howl about the Wilson bill. My sheep are all going into the hands of men who have sense enough to properly care for a sheep and a disposition to study "sheepology," and thus make them a source of profit, Wilson bill or no Wilson bill. I don't want to put them into the hands of a man who has no more sense than to believe that any law that may be enacted, placing wool upon the free list, will *kill* the sheep industries of this board country. Such men are not fit to breed and care for any pure breed of sheep, that I am acquainted with. But down with the bars and drive in the American Merinos. They have stood at the head a long time in this country, and, although some cranks, in these days of cranks, have caught the heavy fleece fever, and some caught the wrinkle fever, and others caught the fineness of fibre craze and bred it into many of them until their constitutions have become weakened; they are still a breed of too high an order of merit for any sheep lover to see brought into disrepute or slandered. They are an American production and we as true Americans must stand by them. If mistakes have been made in their breeding we must rectify them. If too much oil or yolk has been bred into the fleece so as to make the manufacturers kick when we offer them our wool we must breed it out again, and produce a fleece that they won't refuse. Now that we have got them yarded, I am going to do some sorting, and you cranky fellows must keep still. I notice a few in the flock who are effeminate in their general form; the fleece is fine but the sheep that it grows upon shows a weakened constitution. Throw them out into the cullpen. There are some which have fleeces so full of yolk that it is simply gum, and we find it dried in chunks all through the fleece, and on the end of the fiber. I know that fleece weighed upward of eighteen pounds when taken off, but it scoured only fourteen pounds. The manufacturer won't stand that. Throw those out; there are some which are but a mass of wrinkles from the end of the nose to the root of the tail; those wrinkles contain too much hair, or jar as it is called, making the fleece uneven. The Merino is eminently a fine wool producer and the more fine, long, staple wool that we can grow upon a sheep of that breed with a good constitution is, in the future, to be the great object sought. Now I am done sorting and have left me a flock of a fairly good form, and a fleece of wool that is free from oil, and fine enough and long enough to please the manufacturer of cloths, such as the ladies wear and men wear when they go to church or Farmers' Institutes. Now I am going to send this flock to an average farm of the State, that is owned by a man who thinks that the principal value of a sheep lies in the wool that grows upon its body; this farmer has been educated that way and has been taught to feed and care for sheep along the line of wool production; he has become either too old or his convictions are so strong that they cannot be changed in time to be of much benefit to him in this world; so he is the man to take this fine wool flock; he has too much wool in his eyes to ever be made to see the value of a mutton breed; so my Merinos are the sheep for him; he knows just how to care for that breed and does not know how to care for and feed a mutton breed, as his education is all upon the line of fine wool production. You may say fine wool is too low in price to ever make the growing of it profitable; yes, it is low, so are many other products of the farm; but clothing that is largely made from wool, will be worn by the masses as long as the sun continues to shine, and it will be largely made from wool of this kind; and I have no fears but what a remunerative price will be realized when we breed the wool without the grease in it; but what shall I do with those that I have thrown out (my cull flock). I will sort again, and take out those that have good size and a fair form, send them to Niagara county and let a man have them who is in the winter lamb business. He will cross them with a Down or Dorset, and raise a hot-house lamb from them; I don't care who the man is, if he is only a good feeder and knows how to feed them so that they will produce a forty-pound lamb when it is sixty days old; and this man has the faculty of making the buyer of the ewes, when they get fat, believe that their mutton is just as good as that of a Southdown. The balance of this cull lot I am going to send into a market where bologna sausage is made, and take just what I can get for them; now bring in the Southdowns. They are a beautiful lot, and have a mutton quality to a degree that no other can excel. They have not quite size enough; neither does the wool grow upon all parts of the body as I would like; but with skillful American breeding, these faults may be largely overcome. Their native home was among the sand hills of southern England, where pasture was scant; but their owners soon learned to grow turnips, rape, and tares upon the richer land, at the base of these hills, and it is largely to the feeding of these that the Southdown got their mutton quality. So I must send them to a moderately hilly farm in this country, whose owner has faith in mutton sheep and also realizes the importance that a succulent food has in the production of it. This man will raise turnips, yearly for his sheep to be fed in winter; and when grain is fed, it won't be corn, which will soon spoil the Southdown for breeders; so take them to the farmer who will feed oats and bran and who will not hesitate to buy a little oilcake for them, and who will grow clover in sufficient quantity to feed them during the winter. They will thrive there, and the second or third generation will be much better than the flock that I put in his hands; now let them out and bring in their first cousins, the Shropshire. Their native home was in an early day what was called the Morf common now known in England as Stafford and Salop counties. These were rough, hilly counties, and the soil not of the best, but it produced a fair quality and quantity of grass. In the early part of the present century they were given the name of "Rent payers," for the tenant farmers of that part of England. In form they more closely resemble the Southdown than any other breed, but are about twenty per cent. heavier in weight of carcass, and their fleece is also longer in fiber and heavier by about twenty-five per cent. than that of the Southdown. I am also going to send them to an average farm in the State where the owner will grow some turnips or mangels for them, also clover to feed in winter in connection with other coarse food. They don't need pampering care, but they do need a good average farmer's care. Their constitutions are good and they can stand a little more rough usage than the Southdown and will thrive better upon a coarser food than the Southdown. I think that I will send them to a neighbor of the one that got the Southdown; a little competition will be created between these men and as competition is the life of all business, it will stimulate these men to breed something better than has ever been imported to our shores, and I expect both of these men to very much improve upon what I have furnished them to breed from.

Now bring in the Hampshire. They have a blacker face than either of my other breeds; also a larger bone, with a fleece differing but little from that of the Shrop, being of a coarser makeup; they require a better pasturage than the Southdown or Shropshire; but give the Hampshire feed enough and they make a fine sheep; without it, and they grow up a leggy shitepoke; so we must let a man have them who loves a black face, and then he must have a farm that will produce a good pasture in summer, and this man must be a man who has faith in feeding grain when the pasture is short. The lambs, when fed from birth to maturity, make fine sheep and hard ones to beat, and as lambs, when properly fed, make hard ones to beat in the show ring.

Their native home was in the counties of Hants, Kent and Wilts in England, where good feed abounds and turnips, rape, vetches and other foods of like character are raised and fed to sheep, and the Hampshire here must be fed on the same line in order to make them a popular breed. So this flock must go upon a farm that is a little above the average in fertility, and the owner, if he be a man who feeds with a liberal hand, will succeed with them.

Now bring in the Oxford. They are a breed that had some forty years ago a Hampshire for a mother and a Cotswold for a sire. They also originated in the best lands of England and come to us a fine, large sheep, but not one that will stand much grief or short pasturage. Good food the whole year through and plenty of it, is what they need and must have, so they must go upon the best farming lands of the State, and where the farmer only wants a few sheep, so up in the Genesee country we will send them, where there are plenty of good farms and good farmers.

Now I have only two middle-wool breeds left and one is the Cheviot, a sheep of but little renown in this country, but one, nevertheless, of a good strong, vigorous constitution and merit is no small degree. Their native home was up in the hills that bear their name, and is the boundary line between England and Scotland. They are the Scotchman's sheep, and I am proud to say that the old Scotchman of Otsego and adjoining counties have so managed and bred them that neither England nor Scotland can furnish any of the breed that will, at the present time, excel those in this country. They are a breed that are used to the hills and to a hilly farm. We must send them there and that farm must be owned by a Scotchman, or a man whose father, grandfather or great-grandfather at least, was a Scotchman, and let him have this breed to manage, and many of the more popular breeds will have to hustle or get beaten in the showing with this breed of sheep not many years hence. The last middle-wool breed that I have imported that I consider really of any account is the Dorset. So bring them in. Go a little careful with the ewes. All have horns and the old ram has them so large that had he lived in those days might have been used to batter down the walls that were built in the early history of the world. As it is, the stable door looks as though a cyclone has passed that way. A prominent breeder of them in this country says of them that a Newfoundland dog was knocked out by one of the breed in one round; and as Professor Roberts has seen fit to dehorn the one that he owns, I say: "Go slow, John, keep your weather eye open and look out for breakers." Now, with all this, they have a place in this country, and that place is upon the farm of a man who wishes to raise lambs in any month of the year that he chooses. They will breed at any season of the year more regularly than any other breed. The ewes are the very best of milkers and will grow a lamb, or even a pair of lambs, to beat the cars, when they are well fed and bed enough. So the best place and the only place for them is upon the farm that can produce good food, or the owner will buy it, and where the owner wants to raise lambs for the Christmas market. The rams are not a valuable breed for crossing upon other breeds, but the ewes are of the highest merit for the purpose named, Christmas lambs. So we will send them to that kind of a farm and that kind of a farmer where we may look for them to be made a source of profit.

Now bring in my long wools. Let in the Cotswolds first. They are a large, robust sheep, having their origin in the Cotswolds of England; so we can put them upon some of our rolling lands that have fertility enough and the owner has a love for this breed. And when we know that we will generally find an Englishman, and as all Englishmen are English, you know, this is the sheep for him, especially when he came from that part of England. The carcass is fairly good for mutton and the wool can be used for the coarser fabrics, while the skins, with the wool on, makes fine rugs and door mats. So we have found a place for this breed. Bring in the Leicesters and Lincolns. They are so nearly alike that we can class them together, and both come from the fertile plains of old England. They both have merit along a certain line and for mutton lambs will rank only second to the Downs. They have a mild disposition, and yet have a nervous temperament, and a disposition to wander, and will crawl through as small a hole in the fence as any sheep of their size in the world, but rarely ever jump over it. I also will send them to a fertile section of the State, and upon a farm where it is desired to keep only a few sheep. They are not a breed for the brush pasture or the barren hillside. That long silken fleece, can soon be made ragged when coming in contact with briers and brambles. They thrive best upon a farm where good grain crops can be raised, not so much for the feeding of them to the sheep, but the range that can be given the sheep after the crop is taken off, besides they thrive well upon the grain that is left on those fields and the weeds that spring up after the crop is taken off. So on to the rich bottom farm will I send them, little fearing but what I shall hear a favorable report in the future. Now we have some land in the State that is broken, rough and rocky. Man, in his greed for money, has cleared this land of the timber that nature had produced upon it, and now we have this land left with a little wild grass of several species growing upon it, and a great deal of valueless shrubbery. What to do with it is the question. As it is, acre for acre, blue sky is worth nearly as much as that land is. Now I have got a breed of sheep that will live there and thrive there during the summer months, and if the owner of this land only has a little good land to raise winter feed upon for this flock, these mountains can be made worth something to him. I refer to the Scotch Highland sheep or the black face Scotch sheep, They are of no use to the owner of better land, because such land will maintain a better sheep than this breed, but neverthelesss this breed has some merit. Their wool can be used for the manufacture of some kind of coarse fabrics and their mutton is sweet and nutritious, not unlike venison. We have but a few of them in this country and only need enough to stock this kind of land, so we will import just enough for the purpose and quit. We don't need to import another one of any of my other breeds. We have just as good specimens as there are in the mother country. So I say, in conclusion, take what we have and feed them according to their needs, shelter them as their nature requires, put American skill into their breeding, and in the near future old England will be sending over here for stock sheep instead of our going over there after them. So go in peace, my shepherds, and do your level best to make these breeds a far better sheep than the world has ever yet produced.

Pigs in Clover.

D. P. Ashburn.

That trite and true saying, that "farm stock will be just what its owner makes it," is true of the hog in a greater degree, perhaps, than when applied to any other domestic animal. He can endure more abuse and suffer more deterioration from abuse and neglect and yet live than any other farm animal. And the hog, on the other hand, will respond more readily and quickly too, and give better remuneration for good food and care than any other kind of farm stock. The hog is capable of utilizing a greater variety of food and thrive upon it than any other domestic animal. He can eat and grow upon almost any of the products or by-products of the farm, from hay to house-slops. And it is this ability to convert into money many of the by-products, such as skim-milk, buttermilk and whey in the dairy, damaged grain, etc., on the farm, that would otherwise be wasted, that makes the hog so valuable to the farmer, frequently playing the part of a scavenger, and at the same time becomes an important item on the profit side of the farmer's accounts. This ability to utilize this kind of food has led many young farmers into mistakes. They have kept a few hogs on these by-products, and made it so profitable that they conclude that hog raising on a large scale would be a short and sure road to wealth. But the error will soon be discovered if tried. In other words, while the hog is very profitable in the Middle or Eastern States, if the number is limited to what may be necessary to consume the by-products, they cannot be made profitable as a specialty, outside of the great corn belt of the West, because an exclusive grain ration is too expensive. Every farmer should use good judgment in the number of hogs he keeps, which should be determined by the amount of food he produces; and what is equally important, he should use good judgment in balancing the rations for his hogs, using the by-products as its basis. While it is true that a hog is more independent as to kind of food than almost any other farm animal, yet there are certain laws of growth and development, even in his nature, that cannot be violated without loss. He can doubtless be made to yield a profit on a ration that is not so exactly balanced as is necessary to best profits in feeding the dairy cow; yet his ration must be balanced to a reasonable degree in order to make a profitable growth. In my opinion, the failure to feed a balanced ration is the cause of more loss than any other feature of hog raising. The ration should contain all elements required to perfectly develop all parts of the hog, and it should contain these various elements in just the right proportion required by the animal. The farmer should realize this and study and *know* just what is contained in the food his farm produces, and he should combine his products to make a proper ration, and if necessary buy what is required to supply any lack in his products. This will increase his amount of food and enable him to keep a correspondingly greater number of hogs and produce his pork more cheaply than if the less number had been fed on the products of the farm alone. For example: in milk, nature has given us a perfect food, the elements of which are just what a growing animal requires, and they are in just the proportion required to develop *all* parts of the body alike. There is no excess of any element. It is a perfectly balanced ration. When a young animal is deprived of milk, and other foods given its place, the rapidity and perfection of his further development and growth will depend upon how nearly the foods consist of the same elements and in the same proportion as found in milk. The fat and sugar in milk are required by the animal to produce heat and fat, the ash to make bone and the casein to make flesh or muscle. The animal cannot use the bone food to make either fat or muscle, nor can he use the casein to make bone. In other words, if the ration is not properly balanced the animal cannot utilize the excess of one element to supply the lack of some other. In a large degree the animal will virtually balance a bad ration by wasting the excess of any of its elements, that is to say, it will not add to the growth of an animal to add an excess of any element to a balanced ration.

Therefore, it is necessary that the farmer know what elements his products contain and in what proportion, and how to combine these in a balanced ration, and then buy any element that is lacking.

The analysis of foods furnished by the experiment stations of your State will furnish all the information any farmer will need for this purpose.

No mistakes should be made in feeding or care of the hog, because in his very short life there is no time to retrieve errors.

In order to make the most profit the pig should be made to make the best possible growth every day. And this policy should be adopted four months before he is born, by feeding the mother a ration that will enable her to produce strong, healthy, vigorous pigs. And, as soon after farrowing as the milk functions are established, the feeding of the pig should be continued by giving its mother all the food she can eat, properly digest and assimilate. All pigs after weaning, that are not to be used for breeding purposes, should be crowded by feeding all they can eat clean, and have a keen appetite for the next meal, until they are ready for market. And they should be sent to market at the earliest practical date and their places filled with younger pigs, because pork can be grown on light hogs much cheaper than on heavy ones, for the reason that it costs in food a considerable amount to sustain the growth after it is made, and the larger the hog the more it requires. Experiments show that 100 pounds of growth can be made on a pig weighing fifty pounds to start with, by feeding 273 pounds of food, while it requires 479 pounds of the same kind of food to make a like gain on a hog that weighs 150 pounds. And it requires 561 pounds of food to make 100 pounds gain on a hog that weighs 250 pounds. Showing that it costs twice as much to make a pound of pork on a hog that weighs 250 pounds than it does on a hog that weighs fifty pounds. Cheap production being the basis of profit, we should feed and manage so that the cost of a pound of pork is reduced to the minimum. Perhaps the most common failure is insufficient bone food. The western feeders very often neglect this.

I will illustrate the importance of this feature by giving the results of some experiments made by Prof. W. A. Henry, of the Wisconsin Experiment Station. Six pigs of one litter 128 days old, that had been fed alike on skim-milk and corn meal, and were vigorous and strong, were placed in three lots of two each. All were fed on corn meal and water, and all had salt. One lot had free access to hard-wood ashes and one lot was fed a pinch of fine ground bone in each ration, and the other lot was fed corn-meal, water and salt only. They were thus fed 112 days, then slaughtered and the results carefully noted. In this trial it required 130 pounds more corn-meal to make 100 pounds gain in live weight on the pigs fed on meal alone than was required to make the same gain as those fed ashes or bone meal. The thigh bones of each lot were taken out and subjected to a breaking strain. Those fed on meal alone broke at 305 pounds pressure; those having access to ashes broke at 625 pounds pressure, while those fed ground bone broke at 817 pounds pressure. The bones were all burned and the ashes weighed, showing about fifty per cent. more ash in those fed bone food than those fed corn only. These results are corroborated by experiments of other stations. There was no apparent difference in the proportion of lean meat to fat in any of these lots.

Before leaving this item of bone food, I wish to say that it is my belief that a sow would never eat her pigs if she had been properly supplied with bone food. I am aware that other features of an unbalanced ration are assigned as the reason, but I will give it as my opinion, for what it may be worth, that it is the natural result of a lack of sufficient bone food. We keep a sow in a small yard or close pen; and she has to depend upon her owner for all the nourishment, not only to sustain her, but to enable her to produce her young. This demand upon her is very imperative. In my observation the sow that eats her pigs is one that is fairly fed in all other elements, but the bone food is not supplied in sufficient quantities; and what little she may get is required to build up the offspring, while the mother starves in this element of her body until she is crazed with hunger for it. And as the tender semi-cartilagineous bones of the young pigs furnish this element within reach of the famishing mother, the law of self-preservation overcomes her mother instincts and she devours her own offspring. If this is true, what suffering we have caused and what a degree of cruelty we are guilty of, by our thoughtlessness or lack of education as to the needs of our animals, to say nothing of the pecuniary loss. One other feature of this subject still further shows the necessity of balancing the ration. In hogs that have been fed an excess of heat and fat-forming foods and a lack of muscle or lean meat formers, the heart, liver, lungs and kidneys are smaller, and the intestines shorter than in hogs fed a balanced ration; showing the loss of vital power and the dwarfing of the animal by bad feeding. While this is a source of great loss when the hog is fed for the market, the loss is multiplied and the bad effects perpetuated when the animal is used for breeding purposes. Perhaps there is no part of the country that suffers so much in this regard as the great "corn belt" of the west. There, corn is fed almost exclusively and the hogs have become weakened and dwarfed until some good breeds are no longer profitable. The Poland China is the best breed the west ever had and for many years was very prolific, but by overcrowding while young on an exclusive corn diet, they have so deteriorated that the average litter does not exceed four pigs and they are weak and small. So apparent and universal is this condition that many of the best breeders and feeders are alarmed and are taking steps to bring about a reformation. I have been told that Prof. Henry, of Wisconsin, has been trying a cross with the large Irish hog, while ex-Governor R. W. Furnas, of Nebraska, has gone to the woods-ranging hog of the Southern States to cross with the Poland China, hoping to restore potency and constitution. Many western men are watching these and similar efforts with a great deal of solicitude; while others rely upon proper food and care to gradually restore this valuable animal to his former vigor.

It is no exaggeration to say that the west has lost *millions* by ignorance of the quality and importance of a balanced ration.

One more thought and I will leave the subject of feeding. The markets of Europe and the United States are requiring more lean and less fat pork. A young hog well developed in muscle and not too fat brings nearly double the price per pound of a very fat hog; and as the relative proportion of lean to fat depends upon the proper balancing of the ration and is largely fixed in the first six months of the life of the animal, it becomes very important that the necessary flesh-forming foods be supplied, such as milk, clover, bran, shorts, etc. The balanced ration not only produces the *best* growth, but the *best quality* of meat and the *best* price.

A few words as to management and care and I am done. The hog requires *warm, dry, well lighted and well ventilated* quarters in winter, with a yard in which to exercise when the weather will admit. Never allow your hogs to be shut up in a dark, damp basement of a bank barn because it is warm, and especially do not allow him to lie in a wet bed. Crippled limbs and backs and disease often result from this cause. In summer he should have clover or grass pasture if possible, both for profit and health. Study his nature and needs and meet his requirements. The hog is a native of tropical climates; we have transplanted him into our cold country and must provide good quarters or he is sure to suffer and deteriorate in our long, rigorous winters.

Very many men seem to have a standing quarrel with their hogs and never miss a chance to give a kick or a blow. If the hog uses the nose his creator gave him to root out of the yard and goes in quest of those elements of food for which he may be famishing, the dog is set on him and he is clubbed and stoned back into his prison with many a cut and bruise, as a punishment for following his natural instincts. I do not know why some men hate the hog, unless it is because they are so much alike. An "old maid" school teacher once remarked to her physiology class, of which I was a member, in speaking of the similarity of the internal organs of the hog and the human family, that "the hog is nearest like a human being of any dumb brute unless it is a man."

Quiet, kind treatment is not only more human but far more profitable than harsh treatment. I will give one illustration. Supposing, some morning, you go to the pen and find a new family of young pigs. There is, perhaps, no little farm animal that is more pleasing or inspires more enthusiasm among the children than a litter of little pigs, and for once in your life you feel kindly toward that mother, and you reward her by an extra large ration of rich food, which, in her fevered condition, is almost sure to produce bad results; but the man who is thoughtless enough to abuse his hogs is thoughtless enough to commit this mistake. The chances are that within twenty-four hours he will find the mother with hair standing and in a fever, with a caked udder, and perhaps shivering, and the pigs in another part of the pen, famishing for food. Now, if that mother has been compelled to endure the abuse of a brutal owner, the case is about hopeless, for he can do nothing to relieve her except by main strength and forces which would result in as much harm as good; whereas, if she had been kindly treated and had confidence that she would not be abused, the owner could go into the pen and talk kindly and scratch that animal gently and she would lie down and permit her udder to be bathed with warm water until the milk functions were re-established, and he could take those pigs, one by one, and introduce each to his breakfast and soon have all enjoying their natural food in the natural way and thus save both mother and pigs. This is only one instance of very many that occur on every farm, which proves that kind treatment always pays. The program gives the title of this little talk, "Pigs in Clover," and it might have been expected that I would devote considerable time to clover as food for hogs. You all know its superior quality, and I need not dwell upon it. I did not dictate or know what the caption was till I reached your town, but will harmonize it with what I have tried to say, by adding that any pig is in clover that has a kind owner who intelligently studies the needs of his animals and provides for their wants.

Producing Winter Eggs.

JAMES E. RICE.

The largest profits in the poultry business are to be made in the production of winter eggs. This is due to the high price and good demand, which always prevails during the winter months, for fresh eggs. It is a difficult matter to make hens lay during the cold weather, requiring much care and considerable skill, hence the small supply and the high price. This is the only branch of the poultry business which is adapted to the needs of the general farmer.

The growing of winter broilers is a business by itself, and is not adapted to farming, proper; and at the present time it is doubtful whether it can be made remunerative. Early chicken raising, once extremely profitable, is now scarcely so, owing to the large amount of cold-storage stock rushed into the market during the winter and spring months, thus lowering prices. These cold-storage chickens are inferior in quality, but are sold cheaper, and, therefore, find ready buyers. All this stock is put into storage during the glut in the market, at abnormally low figures, and may be held for years before being sold. Capons once brought prices high enough to warrant the risk of operation, and the extra cost of feeding a year or more, which is necessary to make the finest quality. The present slight difference in price between capons and cockerels, for roasters, makes the latter quite as profitable.

Breeding fancy poultry is proving quite remunerative where the person engaged in the business is in a position to exhibit extensively and put considerable time, money and skill into systematic breeding, and judicious advertising. But this branch of poultry-keeping belongs to the specialist and not to the farmer.

There is little danger that the production of winter eggs will be overdone. The majority of farmers, at least, will continue to keep hens in the same unprofitable way as in the past. Canadian eggs coming in at a lower duty will tend to reduce the price, but the Canadian farmer labors under the great disadvantage of extremely cold winters, and, therefore, must always be a mild competitor during the winter months. The Southern farmer might be expected to be our most dangerous rival in this field.

and undoubtedly winter egg production will be largely increased in years to come. But the South also has its disadvantages, in the fact that poultry seems to be more subject to various contagious diseases in the warmer climates.

On looking over the whole field, we must come to the conclusion that we, in New York State, are in the egg belt, so to speak, and close to the finest markets, and should consider seriously the advisability of giving our hens a chance to scratch the mortgage off the farm; not on the farm, which is often the case.

It is a fact that the person who is willing to give a little attention, and apply a reasonable amount of common sense to caring for his fowls, is sure to be well repaid. But he must start out with the determination to produce the finest quality of eggs when they bring the highest price, and to sell in a special market at a fancy figure. There is no farm product where quality counts for so much as with eggs. A purchaser can test his butter, fruit or vegetables, and generally knows what he is getting; but when he buys eggs, he may have eggs, he may have chickens, and he may have neither one. When a rich customer has been fooled a few times this way he is willing to pay an extra price to get absolutely fresh, clean eggs. Thus, one can obtain from five to ten cents per dozen above the highest city quotations, under contract for the entire year, for all the eggs he can produce, when he can warrant his product and guarantee to ship with regularity. This extra price, often 50 per cent. above the wholesale market, is clear profit for the warranty, over and above the good profit at the regular price. But you say that kind of a market is out of the reach of the general farmer, because he can't make his hens lay during the winter. That is because his methods are wrong somewhere. Good, healthy pullets of some good egg-producing breed, bred for business, and not for fancy points simply; hatched during the month of April or May; if kept in a warm, sunny, dry and cheerful house; kept busy and not crowded; given all of the good, nutritious food of the right kind that they will eat; plenty of pure water and grinding material, and kept clean and in pure air, should begin to lay in October or November, and should continue all winter, averaging nearly, if not quite, one-half as many eggs per day during the six winter months as there are fowls in the flock.

We must realize that a hen is a plastic machine for laying eggs, and that she responds to the natural conditions around her. In the spring time every hen in the country is laying, because she can't help it—the natural conditions for egg production then are just right, and she responds. If we are to get eggs in cold weather we must imitate these favorable conditions as nearly as possible, by turning winter into spring. At this time we see that the hens are warm and get plenty of exercise; that they find a good variety of grain scattered about the farm; plenty of green food; an abundance of water and grit; animal food, such as insects and worms; in short, they are perfectly happy, and think that "now is just the nicest time to raise a fine litter of chickens." We must also understand that a hen likes to lay eggs. The happiest hen is the laying hen, always cackling and singing. So we should satisfy our pockets and gratify the hen by making these conditions right and letting her lay.

Better results can be obtained by keeping the fowls confined in the house from the time the ground freezes until it is thawed in spring, provided proper care is given. If the house is large enough the fowls should be kept in flocks of about 50, allowing four and one-half to five square feet floor space for each fowl. Enough window surface should be provided to make the entire poultry-house sunny and bright, so much so that the fowls can see the fine grain in the litter anywhere in the poultry-house. If too much glass surface be put in the house it will be too cold at night during the winter and too hot in the day time during the summer.

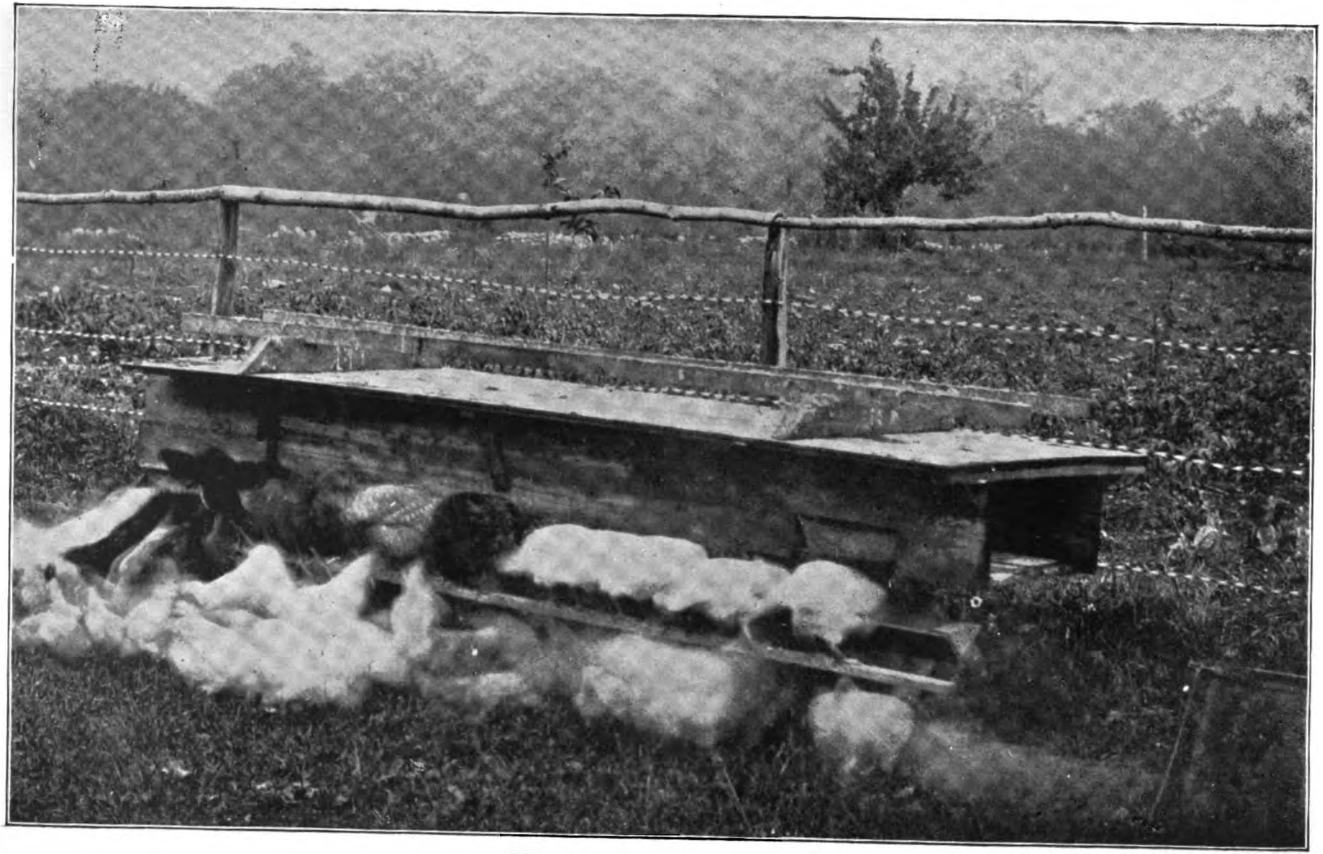
A dust bath should be placed directly in front of the windows, the hottest place in the house. The floor should be of boards; this is warmer, drier and more easily cleaned than earth; it should be covered with straw to the depth of nearly a foot, which makes a splendid carpet, and will keep the fowls busy hunting for the grain which should be scattered in it. The house must be high enough to give the fowls abundant air space. This is especially necessary during the coldest winter weather, when the doors and windows should be shut tight to keep the room warm. A very desirable house for 50 hens is 20 feet long, 12 feet wide and 6 feet high to the eaves, with a gable roof.

The morning feed should be a hot mash of ground feed; ground because they want food that can be quickly digested. A hen that is to lay an egg every other day on the average cannot grind enough whole grain to sustain her, and at the same time, to make the eggs. This morning feed should contain a good variety of grains and should be fed hot. A satisfactory mixture is 100 pounds of wheat bran, 50 pounds of corn-meal, 50 pounds ground oats, 25 pounds oil meal, 25 pounds animal meal, and one pound salt. Feed the fowls all they will eat of this, mixed with scalded skimmed milk. Frequently mix with this baked potatoes or cut clover hay. At noon feed wheat in the litter, which will keep the hens at work scratching most of the afternoon. They will be as happy and as much at home as though they were in the old flower-bed. For the night feed they should have access to a permanent feed-box, where they can get all the whole grain they wish to eat. When the hens are through eating the lid of this feed-box must be dropped to prevent the fowls getting the grain in the morning. A good mixture is 100 pounds wheat, 50 pounds buckwheat, 50 pounds corn, 50 pounds oats. We must also give a full supply of green food; apples, cabbage, turnips and beets are all good. The cheapest and most satisfactory green food is the mangle-wurzel beet. Feed these by the bushel uncut and see that they are always before the fowls. Some form of grit, such as gravel, cracked oyster shells or old mortar, is indispensable; the gizzard needs it for grinding material, and the system must have the mineral elements to furnish lime for the eggshell. So important is this that when the hens are in full laying, and the supply of this material is exhausted they will lay soft-shell eggs. Not by any means of least importance is an abundance of pure water, where the fowls can find it at all times. This don't mean a panful of water, which is either tipped over or filled with dirt as soon as the attendant's back is turned, as is usually the case.

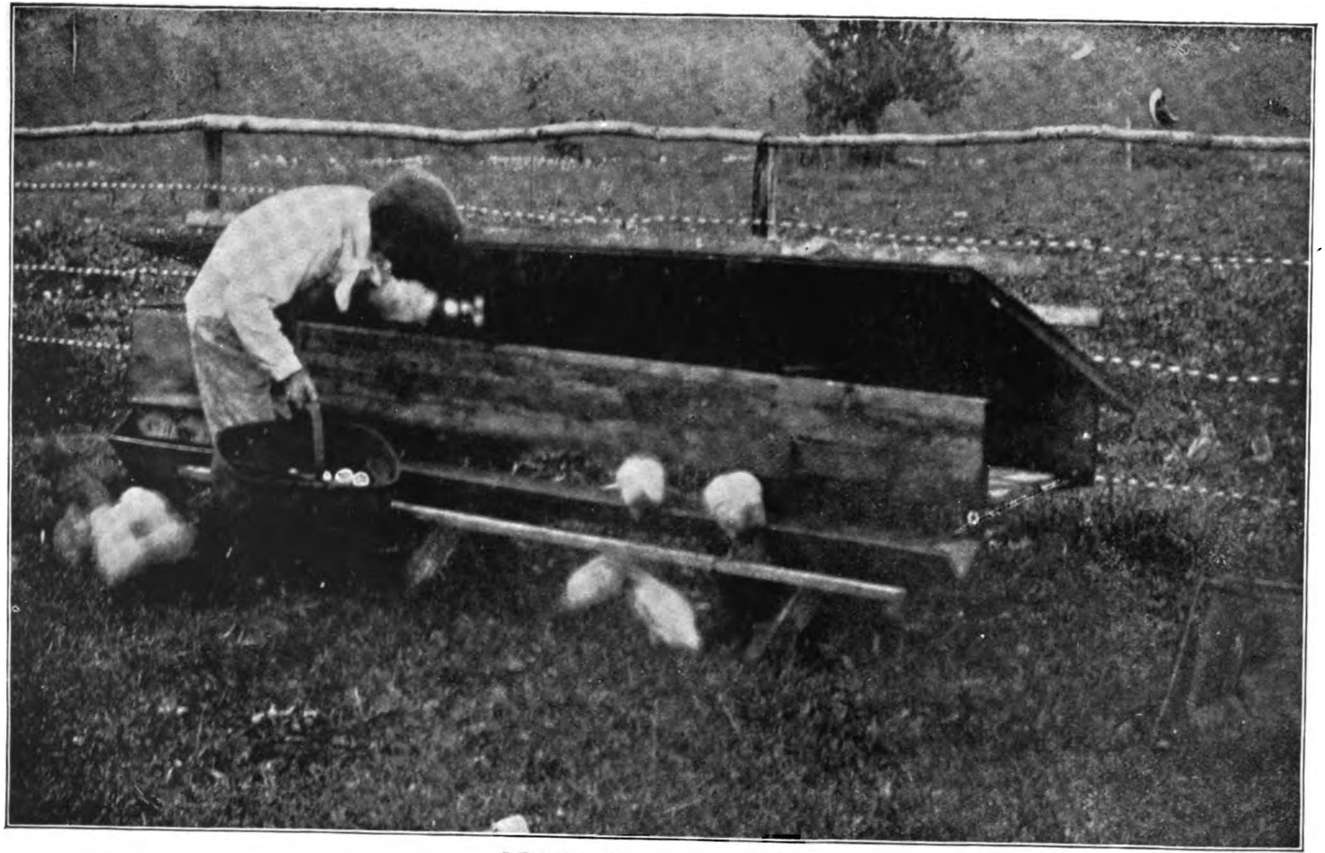
Of course, it goes without saying, that only good fowls should be kept. Every flock usually contains many of these. A lot of old worn-out hens, immature pullets, and useless roosters, are not only a source of great expense but are an absolute injury. Idleness is contagious. Fowls that are over two years old are more subject to disease, and, as a rule, do not lay as well as younger ones. This is especially true of the larger breeds, like Brahmas and Cochins. Hens that are tardy about moulting generally should be discarded. They show a lack of constitutional vigor in being unable to shed the old and throw the new growth of feathers. The best results are obtained from pullets hatched during the months of April and May. If eggs alone are wanted, the White Leghorn will give as good satisfaction as any. If the farmer wants a general purpose flock, i. e., hens that will lay well, that will make good setters and mothers, that will not be inclined to fly, and that will make good eating at any time, a Plymouth Rock, either barred or white, will fill the bill. If heavy early chickens alone are desired, use the Indian Game. These fowls, however, are very poor layers, the eggs being small.

In the spring, select small flocks of about 20 or 25 of the best-laying fowls and place them in a pen by themselves with a thoroughbred rooster. Provide a large run and the best of care. Use their eggs for hatching. By this means a strain of most excellent fowls can be obtained within a few years at a very slight cost.

At first it may seem a little difficult to select the best layers, but after a little close observation and experience, one can tell



DEVICE FOR FIFTY HENS.



DEVICE FOR FIFTY HENS.

quite accurately the ones that are doing the best laying. They, in general, have bright red combs which indicate health and vigor; a clear eye, which shows intelligence; a strong body, wide between the legs and across the back, and a large fluff, all of which shows a large capacity to digest food and manufacture it into eggs.

The interior of the poultry-house must be so arranged that the fowls can be easily cared for; the roosts should be low down and on the same level, to prevent fowls from fighting for the highest place and from being injured when flying to the floor. A platform should be placed under the roosts to catch the droppings, thus keeping the floor clean and saving the manure where it can be easily gathered. A little plaster can be thrown on occasionally, which will prevent the ammonia from escaping. Ashes or lime should not be used, because both have a caustic effect which drives off the most valuable part of the manure. The nests should be seclusive, so that the hens can feel that they are "stealing them" when they go to lay. This also tends to lessen egg-eating. Provide nest-eggs; hens lay better with them. The feed troughs and water basins should be so placed that they can be most easily filled and kept clean. All these fixtures, if properly arranged, will occupy the least amount of floor space, thus giving the hens greater freedom and more room to scratch.

To meet these requirements, the writer made a poultry device which he has been using for several years, and which is now being used by many others.

The two cuts facing this page show the device for fifty hens.

It is 12 feet long and 2½ feet high from the floor to the platform. The cost is only a few dollars, and any person who can use a saw, hammer and square, should be able to make it in a day or two. When once properly made, it is durable, easily taken apart, without drawing a nail, to clean or to remove to other buildings. The two cross legs are 32 inches long, "saw and buck fashion," with ends cut at an angle of 45 degrees, which lets them rest squarely on the floor. The short crosspiece on top is 20 inches long, and the long one, which supports the feed-troughs, is 32 inches long, and the upper side is 1 foot from the floor. On these legs a table 18 inches wide and 10 feet long is nailed firmly. On the table is placed the nest-box, which is 1 foot high, 18 inches wide and 10 feet long. It is divided into seven nest places, 1 foot square and 6 inches deep, with an alleyway 6 inches wide alongside the first 3 feet of this box at the open end, and is reserved for the water basin, as seen in the photograph. On top of the nest-box is placed a platform 32 inches wide and 12 feet long. The cleats, 1 inch thick, let a little light into the nests. Above the platform, and hanging from the ceiling or resting on cross-pieces on the platform, as here shown, are two perches 12 feet long and 14 inches apart. Smooth poles, 2 inches thick, is the best material for this purpose. Strips 4 inches wide, nailed around the two sides and one end of the platform, prevents the droppings from getting on the floor. The two feed-troughs are V shaped and 10 feet long, made of half-inch stuff, 4½ inches wide; they rest on blocks that slide in the angle between the legs. The top of the feed-troughs are about 4 inches below the bottom of the nest-box and about 14 inches from the floor. When there is a good litter the fowls can stand on the floor and eat easily. It is better, however, to have a perch alongside the feed-trough. One-half the surface of the feed-trough is under the nest-box; the other portion projects sufficiently to enable the attendant to shake in the feed, but it is not out far enough for the fowl to get in, so are always clean. At the end of the device and under the platform is a permanent feed-box. This is 2 feet long, 2½ feet high and 18 inches wide; it is divided into two parts, one-third for the grit and two-thirds for the whole grain mixture for night feed. Each part has an incline, bottom down, which the grain gravitates to feed troughs on the outside. A lid is placed over the trough for grain which prevents the fowls from eating. This may be quickly raised by a string without entering the house.

When gathering the eggs, the attendant raises the platform and sees at a glance all the eggs that have been laid that day. Cleats tacked on the under side of the platform keep it from sliding off, and a short brace with strap hinge, holds it up while the eggs are being gathered. If the eggs are not collected until the fowls have gone to roost, or if the manure is not cleaned off for several weeks, it will be difficult to lift the the platform. In such a case, one-half the side of the nest-box can be used as a door, and the eggs taken out without lifting the platform. On the whole, the arrangement saves a great deal of time, and takes up the least amount of room and no floor-space, because the hens run under, over, or in the arrangement, as they choose. It is not patented, so that all who have interest enough in their fowls to give them good care are welcome to use it.

To sum up the question of winter egg production, it may be said: Imitate the natural conditions of spring; make the hens happy; keep them warm and busy; give them all they can eat and drink; feed regularly; keep the house clean, pure and cheerful; have only healthy hens of an egg breed; never frighten them; love them. It pays.

The Rice Poultry Arrangement.

This device is the only thing in the poultry-house. Out of it the fowls eat and drink, in it they lay, on it they roost and under it they go.

It stands on legs, therefore takes up little floor space. It is placed in the middle of the room, which prevents the lice getting on the sides of the house. They are cornered, as 'twer' and are quickly killed by brushing the perches with whitewash and kerosene.

It can be taken apart quickly without pulling a nail. It provides a dark place where the hens can steal their nests, where egg eating is less apt to occur and where the eggs can be easily and quickly gathered. The drippings are caught on a platform easy to clean. The perches are low down and on the same level, which prevents injury to the fowls in falling or jumping from the roosts. Anyone who can use a hammer, saw and square can make one. The expense for lumber should be only a dollar or two. It is not patented.

Directions for Making.

It consists of a table ten (10) feet long and one and one-half (1½) feet wide. This is supported about eighteen (18) inches from the floor by two sets of cross legs, which are made of two by four (2 x 4) inch scantling. To make the legs saw two pieces thirty-two (32) inches long, with the ends cut at an angle of 45 degrees, cutting in the same direction. (See pattern A.)

For the top cross piece, to hold the table, saw a strip twenty (20) inches long, with the ends cut at an angle of 45 degrees, cutting in the opposite direction. (See pattern B.)

For the lower cross piece, to hold the feed trough, saw a strip twenty-eight (28) inches long, with ends cut at an angle of 45 degrees, cutting in the same direction. (See pattern C.)

Time can be saved and mistakes avoided if patterns of thin wood be made for all the parts. This is especially true where one wishes to make several of the devices.

Put these cross legs together so that the "cross pieces" shall be between the leg pieces, as seen in cut D. If all the parts are made of two by four (2 x 4) inch scantling no mortising will be necessary. The lower cross piece should be about 1 foot from the floor.

Set the two "cross legs" up eight (8) feet apart and nail the table boards on firmly, leaving 1 inch of the top cross piece projecting on each side of the table. On the table place the nesting box. This consists of two side boards one(1) foot wide and ten (10) feet long, with end pieces nailed on twenty (20) inches long and one (1) foot wide. The inside is partitioned off with 6-inch boards into an alleyway 6 inches wide, and nest boxes 1 foot square. (See cut E.) Holes are cut in the end pieces so that fowls can enter either end of the alleyway and pass through. The nest box is not nailed to the table. On the nest box place the platform. (See cut H.) This is thirty-two (32) inches wide and twelve (12) feet long, made of matched boards, which are held together by three cleats, 1 inch thick, on the under side.

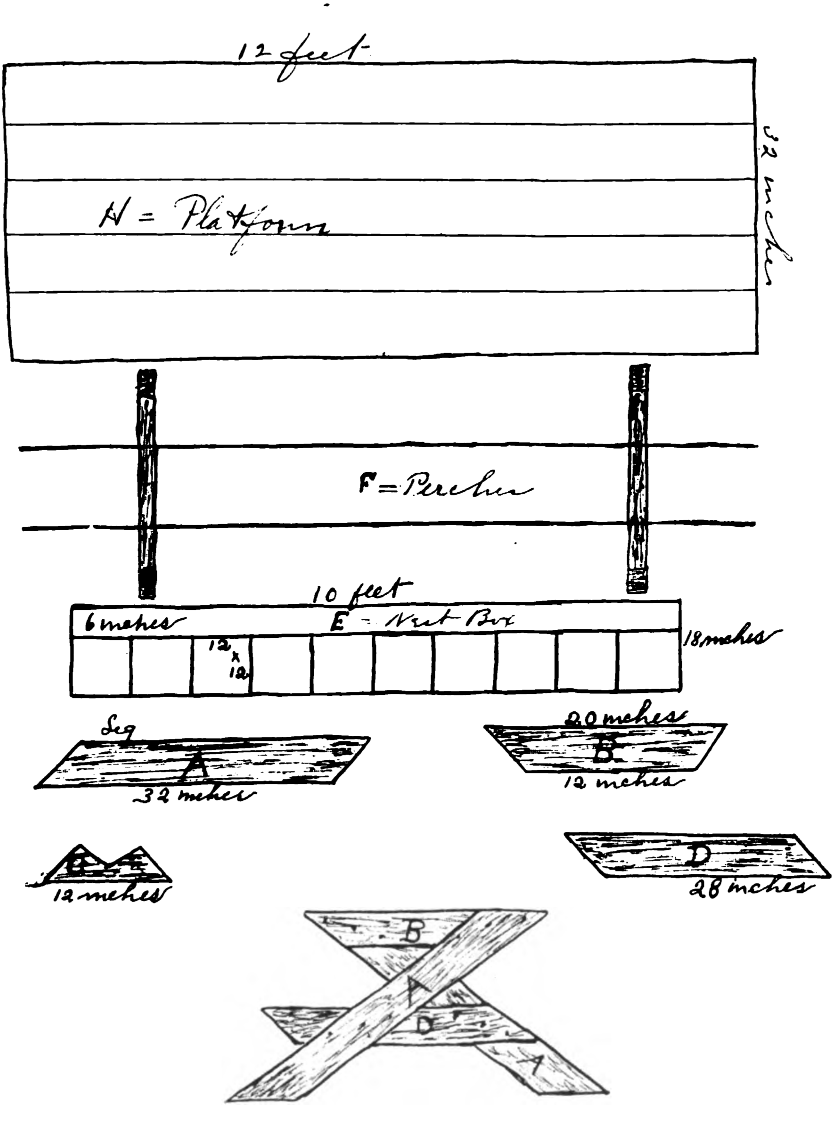
To prevent the platform slipping off the nest-box when it is raised to gather the eggs blocks should be nailed on the cleats nine (9) inches from the side. The cleats serve the purpose better than hinges and do not cost anything. A strip about eighteen (18) inches long is nailed to the front side of the nest-box by a large wire nail, which is clinched. This button holds the platform up while the eggs are being gathered, and is turned to one side when the platform is let down.

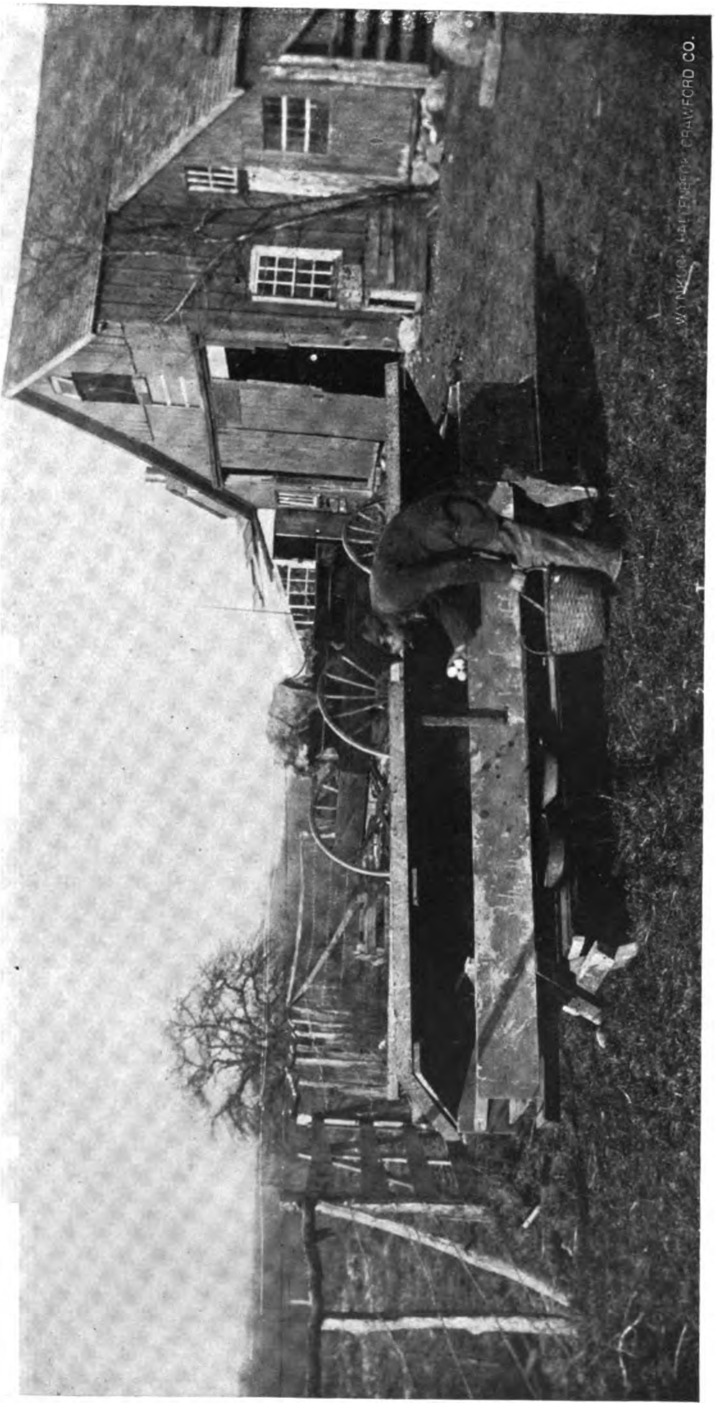
A two (2) inch strip, with a sharply beveled edge, to prevent the fowls roosting upon it, is nailed around the platform to prevent the manure from falling off. On the side a small space is left in this border, where the manure is hoed off into a basket.

On the platform two perches are placed. They are twelve (12) feet long and are nailed fourteen (14) inches apart on two cross-pieces made from 2 by 4-inch scantling cut thirty-two (32) inches long with the ends sawed at an angle of forty-five (45) degrees (see cut F). This frame is not nailed to the platform. Make a feed trough V-shaped ten (10) feet long of one-half-inch stuff, four and one-half (4½) inches wide. Nail the trough on two blocks of 2 by 4-inch scantling (see cut G), at such a distance apart that they will slide in the space between the legs and rest on the lower cross piece, thus preventing it slipping about. The top of the feed trough should then be about 3 to 4 inches below the nest box and half way under it.

On the opposite side from the feed trough and under the nest box can be placed a shelf held up by cleats nailed to the legs. On the shelf can be placed pans holding milk or water. The pans can project from under the nest box so as to be filled without removing.

If the manure is allowed to remain until the platform gets too heavy to lift, or if the eggs are not to be collected until the fowls have gone to roost, a door can be made on the side by hinging one-half of the nest box. Through this the eggs can be gathered.


12 feet
32 inches
H = Platform
F = Perches
10 feet
6 inches
E = Nest Box
12 x 12
18 inches
Leg
A
32 inches
20 inches
B
12 inches
C
12 inches
D
28 inches
B
A
D
A



WYNKOOP HALLENBECK CRAWFORD CO.

Ensilage for Profit.

F. A. Converse.

There is perhaps no subject in the line of Institute work discussed more than the question of ensilage. I sometimes feel as if this subject savored of "chestnuts," it has been discussed so long, and all of us have heard the "pros." and "cons." so many times in these meetings, in our granges and through the agricultural press; yet, notwithstanding all this, men are not converted and the gospel must be preached.

I was an unwilling convert, because in years past I had seen silos built costing a large amount of money, and filled with a product I would not feed a decent cow. The ensilage resembled a poor quality of sauerkraut more than it did a wholesome food. Such ensilage put up from immature corn made bad results, and it was condemned, and rightly too. But, my friends, conditions have changed, and men have come now to know that ensilage is not only a good food, but it is the cheapest food we can provide for our stock, and, properly put up, no food is more wholesome, and I believe the farmers of the future will be compelled to use the silo to meet this competition.

The tendency in the productive world is to cheapen every product that the consumer buys. Never was there a time when a dollar would buy so much as it will to-day, and as a matter of course, this must apply to you and I as dairymen. I can see nothing in the future to warrant us any advanced prices, and so our only salvation is to make the milk cost less than ever before. Some will say that this is unreasonable and can't be done. I believe it can be done, and further, I believe that the greatest factor instrumental in cheapening our milk product is ensilage.

While engaged in this work, and in going over the State, I find the dairymen who are using the silo are able to produce more milk and do it cheaper than they could before the silo was built. This is the universal testimony. Some may ask why so many silos are abandoned. As a matter of fact there are not many silos abandoned, unless the corn crop for some cause failed; or by the whim or prejudice of certain creamery owners or condensed milk manufacturers, where poor, sour ensilage was used in the past, and as a natural consequence to protect themselves they had to stop the using of ensilage, owing to its poor quality; but where ensilage is properly put up and made from mature corn, I have yet to see the man who has put up a silo who has abandoned its use.

As evidence of the quality and flavor of milk or butter made from ensilage, I need only say that the best dairymen in this State, and those who are getting the best prices for their dairy products, are feeding ensilage.

Now, then, let us look for a moment to see why ensilage is better suited to cheapen milk production than any other food. In the first place (1) it provides us with a succulent food in winter, without which no milch cow can do her best. Second, it can be raised so much cheaper than any of the root crops, and in the third place we can double and triple the food-producing power of an acre over any other crop we can raise. The dairyman pursuing the old line of feeding must have about two acres pasture, from two to three acres to raise fodder enough to put a cow through the winter, besides the grain she must have, while with corn, one-half acre will supply all she can eat during the six winter months, and then, too, there is no better way to utilize a corn crop than to put it into the silo, for there we have it in its most perfect condition for food. We not only have the succulence, but we stop the development of the woody fibre in the stalk at just the stage of growth when it is most valuable in milk production.

Another feature of this question we should not lose sight of is this, that the chemical action that takes place in the silo is an aid to digestion, enabling the animal to eat more than she otherwise could digest and assimilate, thus making more milk from a given amount of food than can be made from any other product fed. Ensilage is the only food that will enable a dairy to produce milk as cheap during the six winter months as during the six summer months. I believe this to be a practice the dairyman in the future will be compelled to adopt, and the man who has his cows drop their calves in March and April and dries them off in November will be a back number. There is positively no excuse for such practice, allowing the cows to do business only during the summer, and then tending a lot of dirty, lazy cows all winter with no income from them. If merchants should shut up their stores and go out of business for five months in the year, and just keep the store warm and swept out, but not sell anything until spring comes, we would call them fools; but that is just what a great many of our dairymen are doing, and then wondering why their profits are not larger.

We may look at this ensilage question in any way we will, we are forced to accept it as the cheapest food known for stock. The silo system has passed its experimental stage, and in these days no man needs to put up a silo expecting he is to solve the problem whether or not it is cheap food; whether or not it is a wholesome food; whether or not it will pay a farmer, whose bank account is limited, to put one up. All of these points have been decided many times over by dairymen, not only in this State, but in every dairy State in this Union. So, my friends, don't regard this ensilage system as a craze or a fad. It is an accepted practice that has come to stay. The idea is not new. Silos were constructed in Egypt over 20 centuries ago, and the practice has come down to us with many improvements, until to-day we are forced to accept its utility and its advantages.

The dairy cow on the June pasture is at her best, and to keep her at her best we must at all times approximate these June conditions, both as to food and climate, and the only successful approximation to June food is the silage. Ensilage, I believe, to be a cheaper product than grass, and any animal that will eat grass will eat ensilage and thrive on it. With these facts backing us up, let us see how best to construct a silo and fill it. The question is often asked, what sized silo should I build for a certain number of cows? A general rule can be laid down which will answer with unerring certainty this question. Allow one cubic foot space inside the silo as a ration for one cow per day. A cubic foot will weigh about 40 pounds, which will be an average ration for a 1,000 pound cow. So, then taking into consideration the number of cows a man wants to feed, and the time he wants to feed, he can readily find out the size of the silo he ought to build, but he wants to bear in mind a silo filled full will settle from one-fifth to one-fourth, and so must make calculations accordingly. So for 10 cows to be fed six months we would want a silo 12 feet square and 20 feet high, filled 16 feet, and for 20 cows we would need one 12x15 and 25 feet high, filled 20 feet. For 30 cows we want a silo 12x21 and 28 feet high, filled 22 feet, and a man having 40 cows would need to build one 12x28, filled 22 feet. In a silo of this length it would be better to put a partition through the middle of it. These dimensions are better adapted to the construction of a silo inside the barn in the bay. The bottom of the silo should be grouted like the bottom of a cistern, covered with small stones put in mortar, two parts sand and one part cement. This will make it air tight and keep out the rats. If the barn has an underpinning of mason work have the inside of the wall flush with the inside edge of the silo; furrow out with two-inch plank from the posts of the barn to within one inch of the edge of the wall; nail these planks together at the corners, and have the first one at the bottom, the next a foot higher, and the rest four to six inches farther apart to the top of the silo.

These girders are put closer together at the bottom, on account of the strain being greater at the bottom than at the top. Nail the boards to the edges of these planks. Use rough hemlock inch boards for the siding. Put on two courses, use building paper between the courses, and pay particular attention to break joints. This will make a better and cheaper silo than matched and planed boards, because, unless Georgia pine is used, the matched lumber will pull out of the matching from the shrinking and swelling of the boards.

I have used a silo made like this for six years and it works admirably, and I can suggest only one improvement, and that is to cut the corners off, and this could be done very nicely by putting in a piece of plank, cutting off three feet of the square corner, and then boarding right around, getting the practical benefits of a round silo. The cost of building a silo inside the barn will be about 50 cents per ton for the amount of ensilage, or the silo for 20 cows would hold about 120 tons and cost about $60, exclusive of work. We built our silo ourselves at odd times, not expending a cent for carpenter's work. Any man who knows enough to use a saw, a hammer and a level can build a silo like these I have described.

If there is not room to build a silo in the barn the cost of constructing one on the same plan will be three or four times as great. Seek to have the silo inside the barn, if possible, as it is cheaper, handier, and all things considered, far the best plan. The feeding door should be conveniently located and run to the top of the silo, so the ensilage can be fed from the top. Instead of doors use boards that can be removed as fast as the mass of ensilage settles so that all lifting is avoided in pitching out.

Many times I have been asked the best crop to put in the silo. I reply, never put anything in for ensilage but corn, because you can raise three times more in food value than any other crop. Land that will produce a ton of hay per acre will raise 10 tons of corn, and land that will raise one and one-half tons of hay will raise 15 tons of corn. Two and one-half tons of ensilage is worth as much as a ton of hay, so to make the producing powers of an acre equal to the corn for ensilage we would have to raise six tons per acre. My practice of raising corn is this: I follow a three-year rotation, clover, corn and grain, seeding with eight quarts of clover, two of timothy, mowing the clover twice, then putting it to corn the following spring. During the winter I put the manure on this clover sod as fast as it is made, about 15 loads per acre. It is plowed in the spring about six inches deep, then rolled and fitted with a spring-tooth harrow thoroughly and marked both ways just three feet. I find it makes very little difference whether the corn is put in hills or drills, if the same amount of seed is used, except in the cultivation, it often being desirable to cultivate both ways. I have used Leaming corn for five years. What we want is the largest, earliest variety which will mature in our locality. That with me is the Leaming, which in northern New York will mature in 100 days. Never, under any circumstances, put on more than 10 quarts of seed to the acre, because we must remember corn is a sun plant, and to properly mature it cannot be planted thick. Many people put in a piece of fodder corn and plant it a bushel or two of seed per acre. I actually met one man this winter in the southern tier of counties who got up in the Institute and said he wanted four bushels to the acre for good, sowed corn. I would rather have a windmill than a crop like that, because I could get the wind and water into the animal much cheaper than by feeding it such corn. It is about 90 per cent. water, and we can't afford to raise water when it is so plenty. No, never, whether for ensilage, fodder corn or field corn, put in more than 10 quarts per acre. After the corn is planted I put on about 300 pounds of commercial fertilizer made after a general formula, containing the fertilizing ingredients in the proportion needed for the corn plant, which is approximately one part of phosphoric acid, two parts nitrogen and three parts potash. I put the commercial fertilizer on broadcast rather than dropping it in the hill. I have tried both ways many times in the same field under similar conditions, and the results all go to show that the broadcast is the best, and I attribute it to this reason: I believe that the most critical time in the plant's life is just at the germination period, and when the little rootlets are sent out there is a great deal more plant-food then than is needed, and as the roots grow and extend farther out into the soil there is not enough to continue the rapid growth that has started at first, as the roots all feed from the ends and spread out all through the ground. Dropping fertilizer on a hill of corn and expecting the plant to be benefited is a little like a boy expecting to get his dinner while sitting on his dinner pail. As soon as the fertilizer is applied, put on a smoothing harrow and go over the piece. Do this before the corn comes up. After the corn is up, go over it again with a smoothing harrow the opposite way from the first time over. Every few days go over the corn until it is two inches high; then use a weeder, which will accomplish the same result, as long as possible without injury to the corn. This method of cultivating is very important, as it kills the weeds just as they are starting and hoes the field better than it could be done by hand. The time has gone by when we can afford to hoe any cultivated crops by hand. With horses worth only $10 per dozen and efficient machineryso cheap the hand-hoe must be relegated to the rear. This surface cultivation which I have described not only kills the weeds when it can be done the easiest, but no treatment of the land will conserve the mositure in the soil as will this shallow cultivation. The surface soil acts as a mulch. We have often noticed during a drought a field which has become so hard and baked that we could run our hand into the cracks on the crust that has formed, and perhaps that very night we went into the garden to work a little while and the soil was moist and in good shape. What was the difference? One had the same amount of rain as the other. The garden was stirred frequently by repeated hoeing, while the field was not touched during the drought, so the lesson taught is to stir the soil often in all cultivated fields. An experiment conducted at the Cornell station shows that an acre of land with surface cultivation, as I have spoken of, evaporates two tons less moisture every 24 hours than an acre uncultivated and unstirred. As time goes on and our forests grow less this retention of moisture in the soil must be carefully looked after.

As soon as the weeder is stopped begin with the cultivator. Use some kind so that the depth can be governed. Never put the cultivator down over two or three inches, and two is preferable to three. If necessary to go deep, do it while the corn is small, but never when the corn is very large, for deep cultivation injures the roots, and oftentimes we might better be in the house reading our paper than cultivating our corn and tearing off the feeding roots, checking its growth perhaps to the extent that frost may catch us in the fall. If any of you attended the Columbian Exposition, and visited the exhibit made by the Department of Experiment Stations from Washington, you was doubtless as surprised as I was to see a corn plant with the roots washed out so that one could see the relative amount of root growth as compared with the stalk. Major Alvord, who was in charge, told me that it had been determined by careful experiment that there was more superficial area on the roots of a corn plant than there was on the stalk, and he further said in an ordinary porous soil with the corn hills three feet and three inches apart, there was not a single cubic inch of earth to the depth of four feet that was not permeated with the fibrous roots. This will give us something of an idea of the damage done by putting our cultivator down six inches deep, thinking that we are doing a grand job. Cultivate as often as necessary. I prefer a two-horse wheel cultivator, taking two rows at a time and then a man can ride, and that's worth everything, especially to a man of my disposition.

Never cut the corn until it has begun to glaze. Here is where so many have made the fatal mistake of putting up the corn before it was ripe. There is a large increase in all the nutrients between the time of tasseling and the ripening of the corn. An experiment at Cornell showed that the feeding value of corn between corn in the milk and mature corn was $14 for green corn and $48 for the mature corn.

In regard to cutting and filling the silo we must be governed somewhat by circumstances. Some farmers don't want a gang of men to rush it through in two or three days; others want to do this way. So far as the keeping of the ensilage is concerned, it does not matter whether it is done in one day or in one month, it it is filled continuously until full. I know of a man who filled his silo alone; going out and cutting a load, drawing it to the barn, putting the team in the tread and cutting the load into the silo. He was six weeks doing it, and had good ensilage.

I am in the habit of changing work with two of my neighbors, and doing the whole thing up quick. I hire a threshing engine to furnish the power, and use a 22-inch Smally cutter, and with 15 men and four teams can cut and put in from 50 to 60 tons per day. The corn is cut the same day it goes into the silo. Our wagons are arranged with long planks 18 feet, so that the load is low down, which makes it better loading and unloading. Pack the corn in the silo tight, keep the surface level and thoroughly tramp, especially around the sides and in the corners, if they are square. More loss will occur in corners and around the sides than in any other portion of the silo.

My experience is, that if the edges and corners are tramped thoroughly the center of the mass will be all right. I employ a harness-maker to help in the silo, and the loss from improper tramping is very slight indeed; he weighs 350 pounds. The corn should be evenly distributed over the surface of the silo, not allowing the grain to stay where it naturally drops, just under the carrier.

When full, cover the ensilage with cut straw or chaff to the extent of two feet, cover with boards or rails, and leave until ready to feed. Perhaps I should say if a man does not want to go to the expense of buying a cutter, he can put it in whole with good results, taking pains to lay the stalks straight and alternating the courses, and keeping the corn level. The stalks should be laid the long way of the silo, with the butts to the end instead of side. Whole ensilage should be weighed for best results. The cows do not eat it quite as well as cut ensilage, and it is much more work to handle it. I can cut the corn into my silo cheaper than I could put it in whole, and I find most men, all things considered, prefer to put it in cut. If for any reason the stalks are too dry, it would be well to wet them a little when they are put in to prevent fire fanging. Whole ensilage can be removed from the silo better by cutting down the mass with a hay-knife instead of taking from the top, as in the case of cut ensilage.

Certain precautions in feeding are necessary. Everybody realizes that June conditions are best for milk production, and with the silo we approximate the June feed, green, succulent and laxative, so we must have the June climate, or, in other words, don't feed your cows ensilage unless your stable is warm.

Another thing we must take into consideration, and that is, corn grown as I have indicated will have too many ears to make a good ration for a milch cow. The nutritive ratio is about one to 12, so my practice is to go through the field and pick off about 30 or 40 bushels per acre before cutting, throwing piles on the ground to feed the pigs and horses during the winter. Even then we find it necessary to feed grain with the ensilage, and I use bran, malt sprouts and cotton-seed meal. The grain is fed dry twice a day, on the ensilage. In taking the ensilage from the silo it should always be fed from the top, and not from the end. Go over the whole exposed surface at least once in 48 hours, or else the mass will begin to mold.

These are the essentials I have found necessary to the profitable use of ensilage as a stock food, and while we are learning something all the time about it and its use, nevertheless, any man can follow these principles, and he will make no mistake. I am often asked if I would advise a poor man, struggling with a debt, to put up a silo. I want to say I most emphatically would. It will be a good investment, and as far as the rich farmer is concerned, he perhaps does not need one as much, but it will prove a blessing to any dairyman.

The Separator in the Farm Dairy.

Prof. H. H. Wing.

If we look at the market reports we shall see that butter is classed on the market as "creamery" and "dairy" butter. The first implying that it is butter made up in a factory built for the purpose, from the milk of a greater or less number of individual owners; and the second that it is butter made up on the farm from the milk produced on the farm. If we study the reports further we shall find that in general the quotations are much higher for the creamery than for the dairy butter; this has given rise to an impression quite generally held that in some mysterious way the butter made at the factory is better than it is possible for butter to be that is made on the farm.

Now, this is entirely erroneous. Not only is it perfectly possible to make as good butter on a farm as can be made at a factory, but it is a matter of no great difficulty and does not require an expensive or elaborate equipment. The principles that govern the manufacture of good butter are the same in either case. Their observance will result in good butter on the farm just as surely as their neglect will result in bad butter in the factory. That this is so is seen in the fact that numerous private dairymen, having recognized these principles, are getting more for their butter, made up in a small way in a private dairy, than is given for the very best grades of creamery butter. Indeed, from the fact that the private dairyman can control the cows, their feed and care and the milk from the time it leaves the cow until the finished product goes to the market, he should be able to make a finer and more uniform product than the factory man, who cannot control these important conditions. Notwithstanding the possibilities of the case, the facts are, that to-day the great mass of butter made on farms is sold for a less price than that made at creameries. Let us look for a moment at some of the reasons for this condition of affairs.

In the first place, there is a large amount of butter made on farms that is not good to begin with, and justly should not bring any more than it usually does. This sort of butter is made where the cows and butter-making are a sort of side issue of the farm, where the milk and butter must await the demands of all the other farm and housework before they receive attention. It is made where the maker is ignorant, careless and dirty. The cows are milked at the convenience of the hired man, and the milk is strained and put into the creamer at some indefinite time thereafter when the hired girl gets ready. Sometimes the cream is removed in twenty-four hours and sometimes not for four days. In hot weather the cream gets too sour and in cold it sometimes never gets sour at all. It is churned sometimes at a temperature too low, but often too high, and never twice alike. The buttermilk is not completely removed, salt is added by guess, and it is worked by main strength till the dairymaid gets tired. During the whole process it associates more or less intimately with the cooked and uncooked food in the family pantry, and the wonder is not that it is bad, but that it is so good as it is.

Secondly, some farm dairy butter sells at a low price, not because it is bad itself, but because it is made to suit the maker and not the customer. A study of the kind of butter liked best in one's market is quite as essential to high prices as a knowledge of the principles undelying good butter-making. Again, a large amount of first-class farm dairy butter is spoiled on the way to market, through contact with poor butter of all degrees, and by association with "choice family groceries" in the cellar of the country store.

Another great disadvantage that farm dairy butter has on the market is that it is not made in large enough quantities at a time, so that the maker can afford to spend time and money in looking up and holding the best class of customers, but must depend upon commission men in the general market. It is in this respect that the creamery justly enjoys a great advantage over the private dairyman, by being able to guarantee a certain amount of uniform quality regularly. And it is in this way that farmers owning, or only caring to keep a small number of cows, may secure the largest advantage through co-operation in the establishment of a creamery.

Now, let us look at some of the ways in which the quality of farm dairy butter may be easily improved. In the first place, the dairy work, and particularly the butter-making, must be a distinct department of the farm work. It must be done at the proper time, regularly and systematically, and it must be done in a place devoted to it and to nothing else. This need not be a separate building, or even a very large room, but it should be carefully fitted with ventilation and drainage and should be so arranged as to be easily and completely washed out and then quickly and thoroughly dried. It should be large enough to hold the churn and butter-worker and the cream while ripening, for with the use of the separator the milk itself, as we shall see presently, need never go to the dairy room. It should not be necessary to say that scrupulous cleanliness is the all-important condition of good butter-making, and we will merely pass it over with the hint that cleanliness is a relative term and may not be nearly so clean as they think. One thing I may perhaps call attention to, and that is to the use of steam, not only in removing dirt but in killing the germs of all those fermentations and putrefactions that cause so much trouble in butter-making. Scalding with hot water, particularly as it is usually done, can in no sense take the place of live steam in this respect.

Attention to a few general principles in regard to the temperatures at which the various steps in the process are carried on will have a great effect on the resulting product, especially so far as the texture of the butter is concerned. These, in brief, are to effect all necessary changes gradually, to hold the temperature in the intervals as uniform as possible, and to churn at as low a temperature as will bring the butter in a reasonable time.

By far the greatest factor in improving the quality of farm dairy butter and in lessening the cost of production, is the introduction of the centrifugal separator, which has effected quite as great a revolution in butter-making as the introduction of improved machinery has in grain raising. The following are some of its chief advantages: It is the most efficient method known for removing cream from milk. With the greatest care in a deep-setting system at least three-tenths of one per cent. of fat is left in the skimmed milk, and in a shallow setting system the loss is still greater. With the separator the loss is not to exceed one-tenth of one per cent. of fat, a saving of two-tenths of one per cent., or two pounds of fat in each 1,000 pounds of milk. In a dairy of twenty cows giving twenty-five pounds of milk each a day, this saving would amount to a pound of fat a day, or 300 pounds in ten months. At twenty cents per pound this would amount to $60, nearly fifty per cent. of the cost of a separator.

The separator is the most cleanly method of removing the cream. The cream is removed at once from the milk, and the bulk of material that is necessary to hold and guard against destructive fermentations is reduced at least seven-eighths. The milk is thoroughly aerated during the process of separation. There is removed from the milk a certain amount of albuminous matter that would otherwise remain largely in the cream, and which easily undergoes putrefactive fermentation. While the separator may be run by hand, it is found in most cases quite as economical to use steam power, and the same boiler furnishes steam for cleaning purposes that would not otherwise be available, and the necessity for which has been already indicated.

It leaves the skim-milk in by far the best condition for feeding.

It furnishes cream containing a much higher percentage of fat. This renders it possible to churn at a lower temperature, at the same time to more completely remove the fat from the buttermilk.

The Cheese Industry in the United States.

H. E. Cook.

At the present time there is undoubtedly no farm product of our State which has a reputation which can be maintained, and which should be more zealously guarded, than our cheese.

About seven years ago the State, through its Legislature, made an appropriation to appoint experts to instruct our cheesemakers in their work and to give the farmers needed information in regard to the care of milk. The only efforts which had previously been made to improve the cheese had been by the independent action of the makers, which were very slow. Their close everyday application to their work, their isolation, and ofttimes jealousy, was indeed a bar to progress.

But the work of the instructors, at once, began to revolutionize the condition of the makers, by bringing them into contact with men of experience who were gathering from day to day valuable hints, which, added to their own knowledge, rapidly involved a system which has become general. And to-day New York State makers are producing some of the finest cheese in the world.

The experience of our makers during the past season should teach us two valuable lessons. First. That Canadian enterprise and thorough organization secured to them the results of the October exhibit at Chicago. Second. That we need to cater to our own market.

A thorough business man studies the strong points of his rival in business and makes strenuous efforts to strengthen his own weakness. It is always a deplorable sign of weakness to assume superior knowledge or position in business when our competitor outruns us in the race for supremacy. As cheese producers it must be our purpose to search out, and hold fast, every available source of knowledge. We have bright, earnest, active men engaged in the cheese business.

This character of makers should be and must be increased. How can it be done? No man ever succeeded who did not possess love and enthusiasm for his work. To be able to trace cause and effect are essential. Every maker knows that gassy or tainted milk produces inferior cheese. He may not know why it is so. As long as he produces a cheese that is reasonably good, and the buyer accepts it, the results are fully as satisfactory as though he understood the changes which take place; yet that maker is not as reliable and will not produce such uniformly good cheese. It is a day of specialists, and men must be educated thoroughly in their work if they succeed. I sincerely hope and trust the time may come when makers must pass prescribed examinations before entering upon their work. This may increase the value of their labor, but the requirements are soon to be greater. Our previously conceived notions regarding the relative value of milk for cheese-making have been thoroughly upset.

Makers who meet the future demands upon them must have a knowledge of the component parts of milk. In fact, the analysis of milk will be the A, B, C of their work.

Ah! says the farmer, this means an increased cost of manufacture. Most certainly it does. Unfortunately for the future welfare of our industry, the milk producers are not showing the enterprise and go-aheaditiveness which should characterize their portion of the work. Nothing is drawn from an empty sack. Something for nothing is out of the question. Yet our farmers are constantly hammering the poor cheesemaker upon the back and demanding that he do more work for less money.

You are making a sad mistake, farmers. This condition of things can be fully substantiated by carefully observing the character and condition of the factories in our State. In many factories the sanitary condition is poor. In other factories the cheese, and the maker as well, are subjected wholly to the changes of the weather. To-day his cheese show a surplus of fat by the dripping on the floor. To-morrow the thermometer has fallen thirty degrees and the curing process has been entirely checked. The green cheese which should throw off the surplus moisture and present a dry and clean interior are sticky, moldy and never can show a fine flavor. The extremes of heat and cold are not conducive to the breaking down or curing of full-cream cheese. The cheese of seven to ten days ago should not be subjected to an extremely dry atmosphere. Yet we find these extremes of heat and cold, dry and moist curing-rooms, a common, yes, almost universal condition of things. This is due to a lack of profit in the business.

How often we observe in a fine dairy section large commodious barns, painted, clean and convenient. Fine dwellings as well. In fact, rich, prosperous farmers delivering milk to a cheese factory not worth to exceed seven or eight hundred dollars. Do you think, farmers, this would be the result if the makers or proprietors were paid so that they could live. I am speaking to you, not only from the standpoint of a maker but a producer of milk as well, and I wish to speak plain and point out some of the difficulties which beset the cheese industry.

We certainly make a mistake when we fail to criticise the errors, shortcomings and ignorance both of maker and patrons. No one should criticise who is not willing to suggest a remedy. The cheesemaker must have good milk. At every Institute and at very many factory meetings this question of good milk has been talked until it is quite an old story. Yet, to-day, the statement is rarely disputed that seventy-five per cent. of all the difficulties which beset the maker come from want of care in handling the milk after being drawn from the cow.

The farmers, as a rule, understand that care should be given, but, feeling that they are not responsible to a great extent and that the maker will undoubtedly accept the milk, they take very many chances, and the result is that while they succeed once they fail twice in delivering good milk. There is a fundamental principle which underlies this difficulty that our farmers and cheesemakers should seriously consider. In the first place the method of pooling the milk is entirely unbusinesslike. The factory owners have little or no capital, hence no financial responsibility. The farmers in the immediate vicinity haul their milk, really because they can do nothing else with it, without any guaranty of the value they are to receive. This produces a lack of energy or willingness to properly feed and care for their cows as well as the care of the milk product.

What we need in our cheese factories is more capital, thus enabling us to have plants more fully built and equipped, and in condition to run twelve months in the year. Not to be understood that factories of this kind should be erected on every four corners, as in the present order of things, making competition so sharp that the makers or owners, in order to keep soul and body together, are forced to use buildings not fit for a pig-sty on a first-class farm. With more capital and better buildings would come a desire on the part of both farmers and makers to sell their milk at a price. The producers would have a perfect idea of their income from day to day and the receivers, knowing they were obligated in payment and that only perfect milk and perfect goods would make them a profit, would be compelled to accept only perfect milk. This would also do away with another difficulty which every maker fully appreciates, viz.: That if he refuses to take milk of a questionable character, the maker at an adjoining factory is eager to accept it and pronounce the quality O. K.

This idea of a change of management in our factories is somewhat theoretical, yet I am thoroughly convinced we shall never succeed in placing the cheese business upon a plane commensurate with its importance to the great dairy world without adopting the principles we have advocated.

Dr. John Hall says: "The best way for a man to get out of a lowly position is to be conspicuously effective in it." This true saying would seem to be particularly fitted to our subject. We must take matters just as we find them and make the most of them. This being the accepted policy of both makers and patrons there would soon evolve a better quality of cheese.

How can we consummate this? Only by observing certain well-defined rules. These are, first, a thorough knowledge on the part of the patron of what constitutes good care and feed. The care and food for the cow may not seem to properly belong in a cheese talk, yet, farmers, have you ever thought how intently our fancy butter-makers study the food and care of their animals? Mr. Cottrell, manager of the Levi P. Morton farm, informed me this winter that so finely educated were the tastes of his customers that any marked change in the feed of the cows was at once observed in the character of the butter and he was at once notified.

As producers of milk, either for butter or cheese, we should certainly understand some of the principles which underlie the feeding of a milk-giving animal. It is an utter impossibility for a cow to put into her milk something she does not receive through her feed, only so far as she may be able for a limited time to draw upon her system.

Average milk is composed of:

	Per cent.
Fat	3.8
Casein and albumen	3.2
Sugar	5.0
Ash	.6
Water	87.4
Total	100

The casein represents the albuminous or flesh-forming element. The sugar and fat the heat-forming. Fat is found to be worth two and one-half times as much as sugar or starch for producing heat, hence the fat multiplied by two and one-half added to the sugar and divided by the casein shows that the albuminous bears a ratio to the carbonaceous or heat-forming of 1 to 4.4.

Now, to produce the best results the animal must have foods so combined as to bear this same ratio, or nearly so. Every farmer knows when his cows are turned upon luxuriant June pastures that they rapidly increase the solids of the milk, both fat and casein, as well as the quantity. Why? Because the fresh grass contains the necessary elements which go to make up the solids of the milk and to supply the animal with food the elements of which keep up her animal economy. She has comfort as well. In other words, nature has taken things into her own hands and the animal is provided with every necessity, for at this season of the year plenty of good, pure water is found.

While we are considering the solids of milk we must not lose sight of the water our animals drink. By referring to the analysis we observe that seven-eighths of milk is water, which should teach us two lessons; first, that milk needs no water added to make it healthy, and, secondly, no animal will produce pure, healthy milk unless she is provided with plenty of pure water. These physiological laws must be observed. They mean not only comfort and health for the animal, but profit to the owner. The farmers who refuse to recognize this feeding principle as only "book-farming," are the ones who most surely will help on the cry that farming don't pay. We have only incidentally alluded to the feeding, from the fact to thoroughly discuss it would be to occupy too much time and we should entirely lose sight of our text. If we can improve and to a certain extent control the character of butter by proper foods, why not the cheese? Certainly we can. I do not wish to pass this portion of my subject without laying particular stress upon the water for our cows. When we consider that eighty-seven and one-half per cent of milk is water there should be no hesitation in comprehending the situation. The rocky and mountainous dairy districts the world over have always been noted for the superiority of their butter and cheese, largely due to the pure spring water which flows so freely from the mountain sides. The skill of the makers employed is not superior, as we are led to think many times (on account of their natural advantages) that they have less skill than other localities less favored.

Of all dairy institutions the condenseries demand the most perfect milk. Before locating a plant this subject of water is the first consideration. We cannot all locate in the most favored districts, but we can make the most of our surroundings. We can, by a little forethought and care, secure for our animals as pure water as the locality affords. We can see to it that our pastures contain no stagnant pools, alive with animal and vegetable life, which is not destroyed by passing through the animal. On the contrary, the normal temperature of 98 to 100 degrees simply multiplies their number and increases their activity. This produces an abnormal condition of things. The milk is alive with a bacterial growth, detrimental to flavor and yield, resulting in a loss to both maker and patrons; many times these low, marshy lands can be very cheaply drained by plowing a few furrows, allowing the surplus water to gradually drain off. This will not only do away with the foul water, but the drainage given will put the land in a condition to produce more and better feed. In this way a very small outlay will produce satisfactory and profitable results.

There is not a farmer in our State but knows it injures the animal and her product to be excited in any way, either by dogs, thoughtless boys or men, or by horses which frequently are pastured with the cows. Any farmer who permits this sort of thing becomes criminally negligent in the performance of his duty. If we have carefully observed the feeding, watering and care of the animals no natural causes can step in and deprive us of pure milk. Only our own negligence can bring about such a result.

Again does it become necessary to understand the changes which take place in the milk. If a man works intelligently he works with pleasure and with a will, otherwise he becomes a machine and labors only when driven by some exterior or superior power. After the milk is drawn from the udder immediately there begins a change. That is, some variety of bacteria will begin its growth. What is bacteria? It is a microscopic germ, so infinitely small that millions may develop in a quart of milk. And it is to the development and growth of this little plant that we must devote our time and attention. There are many kinds, but only one which meets our wants and produces the active milk (so-called) and the fine flavored cheese. The germs may be disseminated either through the air, milk-pails, hands, from the udder, or in fact anything with which the milk may come in contact. How many, many times the maker has been put to his wits end to make even a fair cheese from milk which had been contaminated by the golden band which sometimes encircles the milk pails. This is not gold, but a very low, objectionable order of bacteria which develops most easily and produces gassy and floating curds. Foul odors from pig-stys and decomposing manure piles all contribute their share toward the cheesemaker's trouble. If milk was delivered at the factories morning and evening much of the difficulty would be removed, but this becomes a practical impossibility and one-half of the time spent in extra hauling will give the milk its needed care. The question frequently arises, what kind of an aerator is best? My answer is, a two-quart dipper in the hands of an earnest, willing farmer. The real truth of the matter is this, that more depends upon the operator than upon the device used. Every farmer must first understand that simply cooling the milk is the most objectionable thing he could do. It is not sour milk the cheesemaker fears. Any farmer is willing to draw home this kind of milk; but the gassy, tainted and dead milk which has no lactic development, he thinks is all right; he objects and refuses, and only under protest draws it home. This class of milk has been rapidly cooled below seventy degrees and the more rapid the cooling the more hasty and complete must be its exposure to a pure atmosphere. Where milk is delivered in the winter months as much care should be used that it be properly aerated as during the warmer days of summer. From many years experience with farmers in the care of milk, I am satisfied it is not altogether a lack of knowledge, but an indifference and apparent shirking of responsibility. They do not seem to comprehend that any responsibility rests upon them.

To milk the cows, deliver the milk and draw their dividends, that comprises their full duty. They pay one cent per pound for making and furnishing, and the maker must do the rest. Right here comes in the necessity that the manager should possess a thorough knowledge of the details in the care, feed and management of the dairy; the manner of caring for milk and a particular tact, or more properly speaking, an understanding of human nature combined with a pleasant address, which will at once secure for him the confidence of his patrons, without which he will sooner or later fail. Every patron must be placed upon a common working basis. Yet the argument offered Mr. Smith, would either not be comprehended or be very objectionable to Mr. Brown. One patron may have a peculiar method of caring for his milk, quite original, possibly, yet if he brings you good milk don't stop to question his method, even though you do not agree with him. Results are what we are after and very many times tact will deliver us more good milk than arbitrary rules. This may seem to be a rather liberal view, but it is safe, nevertheless, providing, however, that the manager has real tact and not vulgarly speaking, "the big head." The maker or manager should be in sympathy with his patrons. Where the milk is pooled nothing should be kept from them. It is their business, and all books and figures should be entirely at their command. In other words have a mutual understanding with every patron. Then go a step further. Occasionally visit each patron about milking time. Observe carefully his utensils, manner of milking and care of the milk. If cans and pails are not clean, point it out to him in an easy, gentlemanly manner. If the men are visiting and noisy while milking, suggest to him the propriety of quietness at all times in the dairy and, particularly at milking times, making note of the fact that noise and excitement lessen the solids in the milk and produce a loss. Prolong your visit by chatting with the good housewife and kissing the baby until you have an opportunity of observing his treatment of the milk you are to work the following day. Should the can stand in an improper place, look over the premises and kindly advise with him, assist in putting it in a breezy position in hot weather and a protected place in cool weather. Convince him that well aerated milk will produce more cheese and finer flavored cheese. Advise him in his busy season to stop a little earlier and take as much care as he does when work is easier. Convince him of your sincerity. Acquaint him with the idea that he should know when his milk is right as well as the maker. In fact, suggest, instruct, advise and educate this man so that he will fully realize the condition of his milk each morning when he offers it at the factory. Such a patron will never refuse to draw home tainted milk and, more than this, seldom, very seldom, will he bring milk which the maker will refuse.

This plan may take a little time, it may deprive the maker of his afternoon visit, but, my good sir, your only ambition should be to excel in your work, and only be devoting your whole time and energy to your business will this success be assured. On the other hand invite your patrons to visit the working of your factory; note the cleanliness of your utensils; the fine appearance of your cheese; how clean and sweet you keep your whey vat. These are living examples for your patrons to emulate.

I trust we have dealt sufficiently upon the food and care of the cow and care of the milk. Please consider the care taken by Professor Roberts and his associates to secure the finest cheese at Chicago. Especial care was given the milk. Only such factories were selected to enter the race whose patrons were especially willing and capable of delivering perfect milk. The cheese made were three times selected before the final selection was made. This illustrates the possibilities of complete and thorough organization. But of all things it demonstrates the necessity of perfect care and attention to the milk prior to its delivery at the factory. We wish to impress upon our cheese fraternity the necessity of more complete organization while the present system of pooling milk is practiced. If milk were purchased at some fixed price the buyer would also fix the quality. But until that time comes more perfect co-operation among makers and managers will be the only method of improving our condition.

The jealousies and, ofttimes, unhealthy rivalry between factories is productive of much ill-feeling, and instead of helping each rather there is an undercurrent of destruction. I do not wish to be understood that every factory should receive a certain patronage. I believe in the survival of the fittest. If one factory is better managed, if the manager works hard, devotes his time and energy for the benefit of his patrons, becomes in every way responsible, in other words is a thorough business man, there is a law in business, a natural law, which openly says that man's business will increase. Hard work, honesty, persistent effort along well-defined lines never fail of ultimately bringing its reward. But in the main the idea of organization should be to improve the character of our entire product. To illustrate: The counties which have large cheese interests, of which Lewis, Jefferson and Oswego are representatives, should each contain a thorough and complete organization of makers, managers and all interested in the improvement of the cheese product with regular meetings and discussions. Did you ever think how selfish and conceited a man becomes who does not mingle with or associate with those who are engaged in like occupation? Without any apparent effort, only to keep it intact, such an organization would bring about an improvement in the quality of the makers; give them a love for their work; teach them that men and women are respected, not by their profession or by the clothes they wear, but by the intelligence displayed and their devotion to their chosen occupation. Gradually a change has developed in our cheese trade. Formerly the exporter was our main outlet; but we have now come to recognize the home market as the important factor and to which we must cater. A good cheese is a good cheese the world over. Yet it is a fact that the cheese for export must be made a little closer and firmer to withstand the long ocean transit.

The American people will consume every pound of our cheese, provided the quality is right. For many years the practice was to cull every shipment of cheese; the exporter taking the fine cheese while the rejections were sold to a home market. To these were added the skims of various kinds and our people had abundant reason for buying sparingly of American cheese. But we are fast being educated to consume the finest of our cheese, and the factories that are following this trade and style of cheese are coming to the front. The Americans like a soft, rich cheese —well illustrated by many brands of fancy cheese which are sold at high prices compared to Cheddars—simply because they are neatly boxed or packed and are very soft and mellow.

The large grocery and jobbing houses prefer to buy direct from the country, thereby saving commissions. As a rule, they require smaller cheese; if they are willing to meet the extra expense let us make them. We should leave no stone unturned to increase the consumption of this dairy product. To do this, only the finest full-creams must be made. Skim-cheese are a fraud; as a well-known New York dealer says, "made to sell, but not to eat." They are made to fool some one. The keen, alert maker assimulates moisture to such a degree that at fifteen days it is mistaken for fat, but, if not consumed at once, the unfortunate possessor will wish the man who made the cheese had never been born.

Last, but most decidedly not least, we ask your consideration of the modern method of paying for milk. Before proceeding we wish to say a word of praise and congratulation to Dr. L. L. Van Slyke, of the New York Agricultural Experiment Station, who stands second only to Dr. Babcock, the inventor of the Babcock test, as a benefactor of the cheese industry. He has labored indefatigably to prove that the fat in milk is a just guide for its value in making cheese. Its value in making butter was long ago accepted; but it required persistent study and many experiments to demonstrate that casein and fat, the only solids used by the cheesemaker, bore an almost constant ratio to each other. The doctor has demonstrated this to be substantially correct.

Coupled with this work, the Cornell dairy school is prepared to teach our makers how to take samples and successfully operate the test. It would seem that our factories should not be slow to adopt this new and just system. By the old system a premium was placed on poor milk if the farmer delivered three per cent. fat and twelve per cent. total solids. The law protected him while he stood by and cursed the cheesemaker for using a twelve pound ratio.

If A delivered four per cent. milk and B three per cent. milk both received an equal value per pound, while A's milk would produce eleven pounds to the hundred and B's eight and one-fourth pounds to the hundred. If A should take a bushel of wheat to market and B a bushel of screenings, and should demand that they be mixed and the proceeds divided he would be considered a fit subject for the lunatic asylum. But, farmers, you have been doing this for years, and many are still doing business upon this entirely unjust and unbusiness-like system. At one of our factories this system has been in operation for about eighteen months and, by a recent vote of the patrons, it was adopted for another year. The practical result is shown by the fact that there is an effort to improve the milk. They fully realize that it is no humbug, and that an increased test means more money. This produces a general rivalry among the patrons to produce better milk.

What is Fertility?

F. E. Dawley.

When we think of the immense sum of money that is expended every year for commercial fertilizers, and the vast amount of labor that is used in applying them, to say nothing of the labor and time spent in hauling and spreading the manures that are made in the natural course of husbandry each season, we must realize that the farmer has lost confidence in his land, and that he dare not put his seed into the ground without adding in some way to its fertility.

We know from experience that the ground which once gave forth abundantly will not do so to-day, and that we are running too great a risk in planting our seed, without first putting plant food of some kind into the soil. The great difficulty is we do not know the elements our various soils need, and feeling the necessity of something to relieve this distrustful feeling, we go out and buy commercial fertilizers in just about the same manner that some of us buy spring medicine, to relieve that "tired feeling," and if we get "100 doses for $1," whether it is just what we need or not, we buy, and after having used it (letting nature do what she can to remedy matters), we feel relieved, and if the crops do not come out well, we lay the result to luck.

There must be some apparent reasons for the changed conditions regarding the fertility of the soil, and to my mind they are very clear. The whole matter in a nutshell is, that for generations we have been taking from the soil more plant food, more of its life, than we have returned, and that which we have put back has not in all cases contained the elements of plant food needed in the proper proportions. Consequently we have not kept up the fertility of our farms. We have sold the very elements which constitute their value, have practically been selling them in half bushels, and to-day we find them in many cases so much impoverished that we can hardly get pay for what fertility we put on them, and the labor expended in growing the crop.

Many years ago, Baron Von Liebig, after having studied carefully and having made many analyses, followed by careful experiments, formulated four laws, or rather put into words, four of nature's laws, and upon the principles laid down in them, the whole plan of fertilization must rest. They are:

1. A soil can be termed fertile only when it contains all the materials requisite for the nutrition of plants in the required quantity and in the proper form.

2. With every crop a portion of these ingredients is removed. A part of this portion is again added from the inexhaustible store of the atmosphere, another part, however, is lost forever if not replaced by man.

3. The fertility of the soil remains unchanged if all the ingredients of the crop are given back to the land. Such a restitution is effected by manure.

4. The manure produced in the course of husbandry is not sufficient to maintain permanently the fertility of a farm. It lacks the constituents which are annually exported (sold off) in the shape of hay, grain, milk, live stock, etc.

We have progressed very rapidly in our knowledge regarding the feeding of plants since Von Liebig's time, but to his original investigations we owe much, for they really form, to a great extent, the basis upon which for the most part our present system of fertilization is based.

By studying the chemistry of plants and soils, we learn what elements of plant food we remove from the soil with the various crops, but let us first see what plant food is.

There are known to the chemist more than seventy elements or elementary substances, that is, a substance which is a base, or which cannot by any method be divided into two or more other substances. Thus, nitrogen is a chemical element, because you cannot divide it into any other substance; so is potassium; so is phosphorus and so are gold and iron, while water is not, as it is made up of two elements, oxygen and hydrogen.

In bulletin No. 94 of the New York State Experimental Station, we find the following: "You might call these seventy odd elements the alphabet of natural matter, just as our alphabet of twenty-six letters is the alphabet of our words. No matter how much 'things' differ, even as words differ, they are all made up from these elementary substances in some combination," and it fits the case so closely that I am glad to quote it. The chemist finds that fourteen of these chemical elements are necessary for the perfect and luxuriant growth of plants, and the elements required are carbon, hydrogen, nitrogen, oxygen, phosphorus, sulphur, chlorine, silicon, calcium, iron, magnesium, manganese, potassium and sodium. All these are taken from the soil, excepting the carbon, hydrogen, oxygen, aad in some cases the nitrogen, which is drawn to a certain extent from the air by the leguminous plants (clover, beans, peas, etc.). The ones excepted coming from the atmosphere.

Careful analysis and exhaustive experiments go to show that an addition to the soil of any of these elements besides nitrogen, phosphorus and potassium does not aid in the growth of a crop, except in some cases, where calcium (lime) aids as food when applied as a sulphate or that chlorine and sodium may aid when applied in the form of common salt, probably making more soluble the plant food in the soil. Carbonate of lime (quicklime) may act in the same way, but from a close observation of the use of these two latter elements in the central part of New York State, where both are cheap and have been used largely, I am convinced that the old English proverb, that they "impoverish the children while they enrich the sires," is true. Yet there are cases where they are beneficial.

The fact that nitrogen, phosphorus and potash are practically the only elements that show positive benefits when applied to our soil, shows us that they are the only ones that we need to to take into consideration in calculating the value of a fertilizer, because we get enough of all the rest needed in almost any fertilizer, beside finding a sufficiency of them in most soils.

In purchasing plant food, we always find the elements in combination with something else, and they are combined according to a law of nature which is accounted for by what is called the "Atomic Theory," which, as now understood, supposes:*

First. That all elements are composed of indivisible atoms, which are exactly equal in size and weight.

Second. That the atomic weights represent the relative weights of the atoms of various kinds.

Third. That compounds are formed by the union of atoms of different kinds in the proportion of their atomic weights, or multiples of them.

Fourth. That the molecular weight of a compound is equal to the sum of the atomic weights of its elements.

By this system of atomic weights (the symbols used for each element) and mathematics, the study of chemistry is made very simple.

Now let us see where we find the elements which go to make up our plants. First we have the oxygen.

OXYGEN.

The symbol of this is O, its specific gravity is 1.1, and its atomic weight 16. The name means "acid former," and was given years ago when it was supposed to be the essential principle of all acids, but hydrogen is now known to be the true "acid former."

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* Steele.

This is the most abundant of all the elements. By weight, one-fifth of the air is oxygen, eight-ninths of the water, three-fourths of the animal bodies, and one-half of the crust of the earth. Oxygen has no taste, odor or color. It was first isolated by Priestly, in 1774. The combination of oxygen with the other elements are called oxides, and iron rust or oxide of iron is a well-known example.

HYDROGEN,

The symbol of which is H, the atomic weight 1, and the specific gravity .069, was discovered by Cavendish in 1776. Its name means water generating, and it is so called on account of its forming water when burned. It forms one-ninth of the weight of water, and is a constituent of all animal and vegetable substances. When pure it, like oxygen, is colorless, odorless and transparent. It is the lightest of all bodies, being 14 1-2 times lighter than air, and 16 times lighter than oxygen. It is not a poison, but will kill by shutting off the oxygen which is the life sustainer. Water is made up of two parts of hydrogen and one of oxygen, and is written chemically $H2O$. This plays a great part in plant life, but as we are only going to study fertility, and not especially how plants feed, we will not take the time to consider it farther than to show the per cent. or number of pounds of water found in 100 pounds of the following:

Bread	37 lbs.
Veal	78 lbs.
Cucumbers	96 lbs.
Corn silage	77 to 79 lbs.
Timothy hay	7 to 9 lbs.
Squashes	90 to 95 lbs.
Mutton	76 lbs.
Pork	72 lbs.
Apples	85 lbs.
Corn fodder, dry	8 to 12 lbs.
Dry mixed hay	11 to 13 lbs.
Corn meal	12 to 13 lbs.
Watermelon	93 lbs.
Beef	72 lbs.
Eggs	67 lbs.
Beets	90 lbs.
Corn fodder, green	78 to 83 lbs.
Clover hay	11 to 13 lbs.
Wheat flour	9 to 10 lbs.
Strawberries	90 lbs.

Aside from entering so largely into the structure of the crops, it acts as a conveyor of fertility to their tissues, and without it the life and growth of vegetation would be impossible.

NITROGEN,

The symbol of which is N, atomic weight 14, specific gravity .97. This element forms about four-fifths of the air and is found in all animal and vegetable matter. It is an essential element of all plant life and is found in many of the most potent poisons. It is colorless, odorless and tasteless. It will not burn, nor can anything else burn in it. Of the three elements of plant food that we most need it is the most expensive. For the purpose of fertilization we depend mostly on the nitrogen derived from the various " nitrates " or salts of the different bases, such as nitrate of soda, nitrate of potash, sulphate of ammonia, etc., and the various products bearing organic nitrogen, some of which are very available and active, as blood, flesh, seeds, excrement from animals, etc., and some of which are more insoluble and give off their nitrogen more slowly, as peat, muck, leather, scrap, horn-waste, etc. In the organic matter the nitrogen is found united with carbon, oxygen, hydrogen and other matter.

CARBON,

The symbol of which is C, atomic weight 12, specific gravity (of diamond) 3.5 to 3.6. This is one of the most abundant substances in nature. The diamond is pure carbon crystallized. Graphite is another form of carbon, very well known to us as the black lead used in our pencils. Coal, wood and vegetable substances are largely composed of carbon, which gives them their value for fuel. Sugar is 42 per cent. carbon by weight.

SILICON.

The symbol of which is Si, atomic weight 28, specific gravity 2.49. This is the most abundant of the solid substances. In combination with oxygen (Sio2) it is most common. It serves somewhat like an acid to unite with bases forming silicates. It is present in the rocks, sand, etc. Common glass is a mixture of some of the various silicates. Silica is found in all the plants, but there is so much of it in nature that we need not think of it in connection with buying plant foods.

SULPHUR,

The symbol for which is S, atomic weight 32, specific gravity 1.96 to 2.05. This is a well-known substance, commonly called brimstone or, when fine, flower of sulphur. To some of us the mere mention of the word brings visions of an aged teacup, a blackened spoon and a sweet gummy "dose" of our boyhood days. Sulphuric acid, one of the most common acids, is made up of two atoms of hydrogen, one of sulphur and four of oxygen. Its symbol then would be H2 So4. This acid helps to form a great variety of useful salts, as suphate of potash (K2 So4), sulphate of lime (Ca So4). Sulphur is always found in animal and vegetable life, and as it is so plentiful we do not need to consider it in buying fertilizers. Its great value in this connection is in the sulphuric acid as a solvent.

PHOSPHORUS,

The symbol of which is P, atomic weight 31, specific gravity 1.83. This is a soft pinkish yellow substance, which unites with the oxygen of the air so readily that it must be kept under water to prevent its taking fire. Its name signifies "light bearer," and it was so called by the old alchemists because it glows in the dark, and some of those who found it first thought that they had discovered a perpetual lamp. It exists in combination with oxygen and metals in a number of minerals and rocks, as well as in the soil, and is taken up by the growing plants and stored in their seeds. Men and animals take it into their systems in the food, retaining a portion and discarding a portion, which goes again to the soil in the excrement. That which is retained goes to help build up the boney structure in the shape of calcium phosphate, or, as it is more commonly called, phosphate of lime (Co3 2 Po4). Nicholas, in his most interesting little book, "Fireside Science," says of phosphorus, "every adult person carries about with him in his body enough (1¾ pounds) to make at least 4,000 of the ordinary two-cent packages of friction matches, although he does not have enough sulphur to complete them."

This element is never found in nature pure, but is always combined with other elements. One of the most common combinations is the one with lime already alluded to, and as this is the shape in which we find it in most of our fertilizers, it may be well to speak of it more fully. Next to the nitrogen the phosphorus, or rather its combination with oxygen and hydrogen (H3 Po4) given phosphoric acid is the most costly needed fertilizing element. There are three forms of this phosphate or lime. First, the soluble, second, the reverted, and, third, the insoluble.

The soluble phosphate of calcium does not occur naturally, but is made by treating the insoluble with sulphuric acid. By this treatment a portion of the lime is taken away from the phosphate of lime and forms sulphate of lime, leaving the soluble phosphate.

This combination of sulphate of lime and soluble phosphate is known as "superphosphate." This, containing soluble phosphate, is a valuable fertilizer.

Reverted or precipitated phosphate of calcium is that which has once been soluble, but which, after standing, has "gone back," or by contact with certain substances has been converted into a form which is not exactly like the insoluble, and is not soluble in water, but can be dissolved by weak acids or water which contains ammonia salts. It is regarded nearly as good as the soluble for fertilizing.

Insoluble phosphate of calcium is so called because it will not dissolve in water. It is formed in the mineral phosphatic rocks, sands and marls, and is about 85 per cent. of the ash or inorganic matter of bones. To make it quickly available for plant food it must be converted into some form which will dissolve in the soil water. This is usually accomplished by treating it with sulphuric acid.

The fact that the various phosphorus compounds are absolutely necessary for the maturity of plants shows us clearly that this element is a necessity in our complete fertilizer.

CHLORINE,

Symbol Cl, atomic weight 35.5, specific gravity 2.45, is a gas which is found only in combination with other elements. It is most familiar to us in its combination with sodium (Na, Cl), chlorine of sodium or common salt.

SODIUM,

Symbol Na, atomic weight 23, specific gravity .972. This metal is found principally in common salt or brine. It is very much like potassium. It is one of the necessities of plant and animal life.

POTASSIUM,

Symbol K, atomic weight 39, specific gravity .87. This is one of the most peculiar elements in nature. It was discovered by Sir Humphrey Davy, in 1807, and is a silvery white metal, so soft that it can be easily spread with a knife, and its affinity for oxygen is so great that it has to be kept under naphtha, a fluid which contains no oxygen, to keep it from bursting into flame. If you take a little crumb of metallic potassium and place it on water it will take fire and burn with a brilliant light. Potassium oxide (K2O) is usually called in speaking of fertilizers "actual" or "pure" potash to distinguish it from sulphate or muriate of potash, the per cent. of which is often indicated. In former years nearly all the potash used was derived from the carbonates of potash (K2 Co3) " Pearl ash," etc. This, as is well known, is obtained by leaching the ashes of wood, etc., and evaporating the lye. In this way the concentrated lye and similar products are made. Nitrate of potash (K No3) or saltpeter is found as a salt in tropical regions and is also made artifically. This as well as wood ashes is sometimes used to supply potash to the soil. The wood ashes have in fact until a comparatively recent date been the principal source of this element, but the time when they can profitably be used as its source when used for fertility has certainly passed, because we can secure our potash for so much less money in some of the potash salts.

While potash is the cheapest of the three elements that we most need to keep up our fertility, it is the one most needed on most of our soils in New York State. Since we need so much of it and it comes from abroad it may be of interest to know more about it.

More than a century ago Stassfurt in Saxony, which is in the northern part of Germany, was noted for its great salt works. Of course, in those days the old pan process which has become so familiar to us who live in central New York, was used, and the water was evaporated from the natural brine of salty liquid which was pumped from deep wells, just as it is at Syracuse today. The method was slow, expensive and wasteful and the product could not compete with that from the mines of rock-salt, from which the crystal salt was mined. Ultimately the product from the pans was driven from the market, and the old Stassfurt works, ceasing to pay, were shut down. This, of course, stopped the immense revenue which the Prussian government had been receiving from them (for they belonged to the government, just as our wells at Syracuse belong to the State), and they lay as dead property. With the hope of finding a deposit of rock-salt here, the government began borings in 1839. Although the indications were favorable, the results were disappointing, and in 1852 a shaft was begun. In 1857, when it had reached a depth of 1,080 feet a strata of the salt which they were seeking was found.

For some ways they had been working through deposits of what the Germans called "Abraumsalze" or refuse salts, consisting largely of potash and magnesia compounds, which were considered by them to be of no value, but which to-day are the sources of nearly all the potash used in the world. Up to the time of this discovery wood ashes were about the only source of potash and they were not made in quantities sufficient to keep the supply even with the demand, but here was found almost an inexhaustible supply.

This is another case of some substitute being found for a product that was getting scarce, indicating surely that mother earth is still able and willing to care for her children, if they only study to find the way of helping themselves. About this time Von Liebig, as before stated, discovered the natural laws which govern plant growth and showed conclusively that the soil needed certain elements to enable the plants to perfect themselves. This made a further call for potash and the vast deposits at Stassfurt were called upon to supply the deficiency. Vast mines were dug and soon both the crude and the refined salts were placed upon the market. The success attained by those who used large quantities of potash in their fertilizers in producing the best quality and the largest yields in their crops has created an enormous demand for the product of the Stassfurt mines, which has increased from year to year, until the quaint old town is again bustling and lively, more than 10,000 people being directly employed there digging fertility from the bowels of the earth, and preparing it for shipments all over the world; hundreds of thousands of tons of the various products of her mines being sent out every year. But whence comes all this material? The German Kali Works, who handle the product of the mine of Stassfurt, have this to say of the origin of the Stassfurt salt and potash deposits.

"The Stassfurt salt and potash deposits had their origin, thousands of years ago, in a sea or ocean, the waters of which gradually receded, leaving near the coast lakes which still retained communication with the great ocean by means of small channels. In that part of Europe the climate was then tropical, and the waters of these lakes rapidly evaporated, but were constantly replenished through these small channels connecting them with the main body. Decade after decade this continued, until by evaporation and crystallization, the various salts present in the sea-water were deposited in solid form. The less soluble material, such as sulphate of lime or "anhydrit," solidified first and formed the lowest stratum. Then came common rock-salt with a slowly thickening layer which ultimately reached 3,000 feet, and is estimated to have been 13,000 years in formation. This rock-salt deposit is interposed with lamellar deposits of "anhydrit," which gradually diminish toward the top and are finally replaced by mineral "polyhalit," which is composed of sulphate of lime, sulphate of potash, and sulphate of magnesia. The situation in which this polyhalit predominates is denominated the "polyhalit region" and after it comes the "kieserit region," in which, between the rock-salt strata, kiesert (sulphate of magnesia), is imbedded. Above the kieserit lies the "potash region," consisting mainly of deposits of carnallit, a mineral composed of muriate of potash and chloride of magnesia. The carnallit deposit is from 50 to 130 feet thick and yields the most important of the crude potash salts and that from which are manufactured most of the concentrated articles, including muriate of potash.

Overlying this potash region is a layer of impervious clay which acts as a water-tight roof to protect and preserve the very soluble potash and magnesia salts which—had it not been for the very protection of this overlying stratum—would have been long ages ago washed away and lost by the action of the water percolating from above. Above this clay roof is a stratum of varying thickness of anhydrit (sulphate of lime), and still above this a second salt deposit, probably formed under more recent climatic and atmospheric influences, or possibly by chemical changes in dissolving and subsequent precipitation. This salt deposit contains 89 per cent. (often more) of pure salt—a degree of purity rarely elsewhere found. Finally, above this are strata of gypsum, tenacious clay, sand and limestone, which crop out at the surface."

The perpendicular distance from the lowest to the upper surface of the Stassfurt deposits is about 5,000 feet (a little less than a mile), while the horizontal extent of the bed is from the Harz mountains to the Elbe river in one direction, and from the city of Magdeburg to the town of Bernburg in another.

It must not be inferred from what has been said that the various strata succeed one another in regular order. To be sure, they occur according to certain well-marked physical and chemical laws, which, together with local conditions and geological disturbances, have fixed their relative positions, but as the order of formative influence has varied, so have the results succeeded one another in interchanging strata, and one deposit is found here higher, there deeper than another. At some few places, through refts or fissures, surface water has entered and either entirely carried away the potash deposits or changed them into secondary products. Resulting from this latter action are beds of kainit, sylvinit, and other less important compounds, which, from their causation, are only found in the upper strata.

From what has heretofore been said, it follows that Stassfurt possesses a comparatively inexhaustible supply of potash salt. Further geological exploration may discover deposits similar to those at Stassfurt, but none such are known to exist, and hence it may be said that practically "Stassfurt supplies the world with potash."

CALCIUM,

Symbol Ca, atomic weight 40, specific gravity 1.57. This is a common element, and exists largely in limestone, gypsum and in the bones. Quicklime is calcium oxide ($Ca\ O$). It is obtained by heating limestone ($Ca\ Co_3$) in large kilns. The Co_2 is driven off in vapor by the heat and the CaO or calcium oxide is left in the shape of a white solid. This has a great affinity for water ($H_2\ O$) and when they unite they form calcium hydroxide ($Ca\ H_2\ O$) or what we commonly call slacked lime. In doing this it swells greatly and gives off heat. The swelling is caused by the lime absorbing the water, 56 pounds of lime taking up 18 pounds of water. This form of lime is sometimes used on land. It may be beneficial on mucky, sour land, but I would try a little first. The trouble is, it usually overdoes the thing, and liberates plant food faster than the plants can take it up.

Water lime, from which hydraulic cement is made, is limestone that contains 10 per cent. or more of silica sulphate of calcium ($Ca\ So_4$, $H_2\ O$) and is commonly called plaster of gypsum. In former days this was used as a fertilizer with grand results. Just how or why it did such work no one seems to know, but it is very evident that as good results are not obtained by its use now as in former years. Its greatest value lies, I believe, in its ability to hold ammonia and prevent waste when used as a deodorizer in the stables and on the manure heaps. Where this costs very much, kainite may be used more economically and with fully as good results for the same purpose.

MAGNESIUM,

Symbol Mg, atomic weight 24, specific gravity 1.7. This is best known in its form of magnesia ($Mg\ O$). It is found, to a certain extent, in all plants and animals.

IRON,

Symbol Fe, atomic weight 56, specific gravity 7.8. This is the best known and most useful of all metals. It would be hard work to conduct our agricultural affairs without it. Still, few of us are aware to how great an extent it enters into our vegetation and animal life. It exists in most soils and gives to many clays their red and dark brown colors. To those who are studying the subject of fertility it is perhaps most interesting on account of the affinity for certain elements, and the rapid changes which it helps to carry on in the soil when certain fertilizers are used.

We have so far been considering the elements that plants need in order to make a natural and luxuriant growth, and we find that everything needed is found in most soils in sufficient quantity except the potash, the phosphoric acid and the nitrogen. These then are the three elements that we must supply to get the best results. We have already noticed some of the sources of these elements, but to make the whole matter plain we will tabulate the analysis of those most commonly used, and in order to save space will give at the end of the article the analysis of the various elements used to procure the plant foods, also an analysis of our farm manures, crops, feeding stuffs, etc., complied from the work of the New York State Experiment Station at Geneva, and the United States government publications.

Some of the chemicals are not as valuable proportionately as others, because, for various reasons, the plant food in them is not as readily soluble. Leather scrap, hair, horn and wool waste are good examples of the class of slow-acting sources, because they decompose and set free their nitrogen so very slowly, and they are not profitable sources in which to purchase this element. If we knew in our mixed fertilizers which sources of the various elements of plant food were used it would be a pretty easy matter to figure their commercial value, but though we do not, and cannot figure closely, we can compare two brands of fertilizers fairly, and arrive at an approximate value. In order to figure the commercial value we must send to our experiment station and get from the director the trade values of the fertilizing elements in raw materials and chemicals adopted by the experiment stations. They vary from year to year, so you can see the necessity of sending to the station for a new list each year.

Having this, we can easily figure the commercial valuation. Take, for example, a fertilizer that has a guaranteed analysis of nitrogen 1 to 2 per cent., soluble phosphoric acid 8 to 10 per cent., actual potash 8 to 10 per cent. The first operation is to find the number of pounds of nitrogen, phosphoric acid and potash contained in 2,000 pounds, or one ton, of the material. To do this we multiply the guaranteed per cent., always taking the lowest figure, as that is the only one guaranteed, by 20, the number of hundred pounds in the ton. This gives us:

Nitrogen, 1 x 20 = 20 pounds.
Phosphoric acid, 8 x 20 = 160 pounds.
Potash, 8 x 20 = 160 pounds.

To reduce this to a cash basis, multiply each amount by the price per pound. Supposing the nitrogen to be worth 15 cents per pound, the phosphoric acid 6 cents, and the potash 4½ cents, we would have:

Nitrogen, 20 x 15 cents	$3 00
Phosphoric acid, 160 x 6 cents	9 60
Potash, 160 x 4½ cents	7 20
	$19 80

This gives $19.80 as the commercial value, or the approximate market value of a ton of such fertilizer.

The approximate market value of the different brands of commercial fertilizers, obtained by the current mode of valuation, does not express their respective agricultural value, i. e., their crop producing value, for the higher or lower market price of the different brands of fertilizers does not necessarily stand in a direct relation to their particular fitness without reference to the condition of the soil to be treated, and the special wants of the crops to be raised by their assistance, nor to the form in which the different guaranteed essential articles of plant food are best adapted.

To select judiciously from among the various brands of fertilizers offered for patronage, requires, in the main, two kinds of information, namely: we ought to feel confident that the brand of fertilizer in question actually contains the guaranteed qualities and quantities of essential articles of plant food at a reasonable cost; and that it contains them in such form, and in such proportions, as will best meet existing circumstances and special wants. In some cases it may be mainly, either phosphoric acid or nitrogen or potash, in others two of them, and in others again, all three of them. A remunerative use of commercial fertilizers can only be secured by attending carefully to the above stated conditions.

Further than this, we must know the needs of our soil, and cater to them. This is best learned, I believe, by making careful experiments at home with the crops that are growing on our own lands. We may learn the theory, and it is profitable for us to work on these theoretical lines, but it is the actual test and experiment at home that tells the story of actual profit or loss.

As a matter of convenience for reference, there are given below in brief form the methods already used in mathematics for converting one chemical compound into an equivalent of some other chemical compound:

(1) To change ammonia into an equivalent amount of nitrogen, multiply amount of ammonia by....	.8235
(2) To change nitrogen into an equivalent amount of ammonia, multiply amount of nitrogen by....	1.214

(3) To change muriate (chloride) of potash into an equivalent amount of actual potash, multiply amount of muriate by .... .63

(4) To change actual potash into an equivalent amount of muriate (chloride) of potash, multiply amount of actual potash by 1.585

(5) To change sulphate of potash into an equivalent amount of actual potash, multiply amount of sulphate by .... .54

(6) To change actual potash into an equivalent amount of sulphate of potash, multiply amount of actual potash by 1.85

I. — Compilation of Analyses of Commercial Fertilizing Materials.

NAME OF SUBSTANCE.	Moisture.	Nitrogen.	Potash.	Phosphoric Acid.		
				Available.	Insoluble.	Total.
Apatite	......	......	......	......	......	36.08
Bone ash	7.00	......	......	......	......	35.89
Bone black	4.60	......	......	......	......	28.28
Bone black (dissolved)	......	......	......	16.70	0.30	17.00
Bone meal	7.47	4.12	......	8.28	15.22	23.50
Bone meal (free from fat)	......	6.20	......	......	......	20.10
Bone meal (from glue factory)	......	1.70	......	......	......	29.90
Bone meal (dissolved)	......	2.60	......	13.53	4.07	17.60
Caribbean guano	......	......	......	......	......	18.90
Cuba guano	24.27	1.67	......	......	......	13.35
Keystone con phosphate	1.50	......	......	38.81	8.94	47.75
Mona Island guano	12.52	0.76	......	7.55	14.33	21.88
Navassa phosphate	7.60	......	......	......	......	34.27
Orchilla guano	7.31	......	......	......	......	26.77
Peruvian guano	14.81	7.85	2.61	8.36	6.90	15.26
South Carolina rock (ground)	1.50	......	......	0.60	27.43	28.03
South Carolina rock (floats)	......	......	......	......	......	27.20
South Carolina rock (dissolved)	......	......	......	11.60	3.60	15.20
Thomas slag (American)	......	......	......	......	......	21.37
Thomas slag (English)	......	......	......	6.09	13.31	19.40
Thomas slag (German)	......	......	......	......	......	30.51
Carnallite	......	......	13.68	......	......	......
Cotton-seed hull ashes	7.33	......	23.80	......	......	8.50
Kainite	3.20	......	13.54	......	......	......
Krugite	4.82	......	8.42	......	......	......
Muriate of potash	2.00	......	52.46	......	......	......
Nitrate of potash	1.93	13.09	45.19	......	......	......
Spent tanbark ashes	6.31	......	2.04	......	......	1.61
Sul. potash (high grade)	1.25	......	38.60	......	......	......
Sulph. potash and magnesia	4.75	......	23.50	......	......	......
Sylvinite	7.25	......	16.65	......	......	......
Waste from gunpowder works	2.75	2.43	18.00	......	......	......
Wood ashes (unleached)	12.00	......	5.50	......	......	1.85
Wood ashes (leached)	......	......	1.10	......	......	1.40
Ammonite	5.88	11.33	......	......	......	3.43
Castor pomace	9.98	5.56	1.12	......	......	2.16
Cotton-seed meal	6.80	6.66	1.62	......	......	1.45
Dried blood	12.50	10.52	......	......	......	1.91
Dried fish	12.75	7.25	0.45	3.05	5.20	8.25
Horn and hoof waste	10.17	13.25	......	......	......	1.83
Lobster shells	7.27	4.50	......	......	......	3.52
Meat scrap	12.09	10.44	......	......	......	2.07
Nitrate of soda (pure)	......	16.47	......	......	......	......
Oleomargarine refuse	8.54	12.12	......	......	......	0.88
Sulphate of ammonia	1.00	20.50	......	......	......	......
Tankage	13.20	6.82	......	5.02	6.23	11.25
Tobacco stems	10.61	2.29	6.44	......	......	0.60
Wool waste	9.27	5.64	1.30	......	......	0.29
Ashes (anthracite coal)	......	......	0.10	......	......	0.10
Ashes (bituminous coal)	......	......	0.40	......	......	0.40
Ashes (limekiln)	15.45	......	0.86	......	......	1.18
Marls (Massachusetts)	18.18	......	......	......	......	1.05
Marls (North Carolina)	1.50	......	0.04	......	......	0.56
Marls (Virginia)	15.98	......	0.49	......	......	0.09
Mud (fresh water)	40.37	1.37	0.22	......	......	0.26
Peat	61.50	0.75	......	......	......	......
Soot	5.54	......	1.83	......	......	......
Turf	19.20	1.94	......	......	......	......

II. — Compilation of Analyses of Fertilizing Materials in Farm Products.

NAME OF SUBSTANCE.	Moisture.	Nitrogen.	Potash.	Phosphoric acid.
Cattle (solid fresh excrement)	......	0.29	0.10	0.17
Cattle (fresh urine)	......	0.58	0.49	......
Hen manure (fresh)	......	1.63	0.85	1.54
Horse (solid fresh excrement)	......	0.44	0.35	0.17
Horse (fresh urine)	......	1.55	1.50	......
Human excrement (solid)	77.20	1.00	0.25	1.09
Human urine	95.90	0.60	0.20	0.17
Poudrette (night soil)	......	0.80	0.30	1.40
Sheep (solid fresh excrement)	......	0.55	0.15	0.31
Sheep (fresh urine)	......	1.95	2.26	0.01
Stable manure (mixed)	73.27	0.50	0.60	0.30
Swine (solid fresh excrement)	......	0.60	0.13	0.41
Swine (fresh urine)	......	0.43	0.83	0.07
Blue melilot	8.22	1.92	2.80	0.54
Buttercups	......	1.02	0.81	0.41
Carrot tops (dry)	9.76	3.13	4.88	0.61
Clover (alsike)	9.93	2.33	2.01	0.70
Clover (Bokhara)	6.36	1.77	1.67	0.44
Clover (mammoth red)	11.41	2.23	1.22	0.56
Clover (medium red)	10.72	2.09	2.20	0.44
Clover (white)	......	2.75	1.81	0.52
Corn fodder	......	1.80	0.76	0.51
Corn stover	28.24	1.12	1.32	0.30
Cow-pea vines	9.00	1.64	0.91	0.53
Daisy (white)	9.65	0.28	1.25	0.44
Daisy (ox-eye)	......	0.80	2.23	0.27
Hungarian grass	7.15	1.16	1.28	0.35
Italian rye-grass	8.29	1.15	0.99	0.55
June grass	......	1.05	1.46	0.37
Lucerne (alfalfa)	6.26	2.07	1.46	0.53
Meadow fescue	9.79	0.94	2.01	0.34
Meadow foxtail	......	1.54	2.19	0.44
Mixed grasses	11.26	1.37	1.54	0.35
Orchard grass	8.84	1.31	1.88	0.41
Perennial rye-grass	9.13	1.23	1.55	0.56
Red top	7.71	1.15	1.02	0.36
Rowen	12.48	1.75	1.97	0.46
Salt hay	5.36	1.18	0.72	0.25
Serradella	7.39	2.70	0.65	0.78
Soja bean	6.30	2.32	1.08	0.67
Tall meadow oats	......	1.16	1.72	0.32
Timothy hay	7.52	1.26	1.53	0.46
Vetch and oats	11.98	1.37	0.90	0.53
Yellow trefoil	......	2.14	0.98	0.43
Buckwheat	82.60	0.51	0.48	0.11
Clover (red)	80.00	0.58	0.46	0.13
Clover (white)	81.00	0.56	0.24	0.20
Corn fodder	72.64	0.56	0.62	0.28
Corn fodder (ensilage)	71.60	0.36	0.83	0.14
Cow-pea vines	78.81	0.27	0.31	0.98
Horsebean	74.71	0.68	1.37	0.33
Lucerne (alfalfa)	75.30	0.72	0.45	0.15
Meadow grass (in flower)	70.00	0.44	0.60	0.15
Millet	62.58	0.61	0.41	0.19
Oats (green)	83.36	0.49	0.38	0.13
Peas	81.50	0.50	0.56	0.18
Prickley comfrey	......	0.42	0.75	0.11
Rye grass	70.00	0.57	0.53	0.17
Serradella	82.59	0.41	0.42	0.14
Sorghum	......	0.40	0.32	0.08
Spanish moss	60.80	0.28	0.26	0.30
Vetch and oats	86.11	0.24	0.79	0.09
White lupine	85.35	0.44	1.73	0.35
Young grass	80.00	0.50	1.16	0.22
Barley chaff	13.08	1.01	0.99	0.27
Barley straw	13.25	0.72	1.16	0.15
Bean shells	18.50	1.48	1.38	0.55
Beech leaves (autumn)	15.00	0.80	0.30	0.24

II.—Compilation of Analyses of Fertilizers, Etc.—(Continued).

NAME OF SUBSTANCE.	Moisture.	Nitrogen.	Potash.	Phosphoric acid.
Buckwheat straw	16.00	1.80	2.41	0.61
Cabbage leaves (air-dried)	14.60	0.24	1.71	0.75
Cabbage stalks (air-dried)	16.80	0.18	3.49	1.06
Carrots (stalks and leaves)	80.80	0.51	0.37	0.21
Corn cobs	12.09	0.50	0.60	0.06
Corn hulls	11.50	0.23	0.24	0.02
Hops	11.07	2.53	1.99	1.75
Oak leaves	15.00	0.80	0.15	0.34
Oat chaff	14.30	0.64	1.04	0.20
Oat straw	28.70	0.29	0.88	0.11
Pea shells	16.65	1.36	1.38	0.58
Pea straw (cut in bloom)	......	2.29	2.32	0.68
Pea straw (ripe)	......	1.04	1.01	0.85
Potato stalks and leaves	77.00	0.49	0.07	0.06
Rye straw	15.40	0.24	0.76	0.19
Sugar-beet stalks and leaves	92.65	0.35	0.16	0.07
Turnip-stalks and leaves	89.80	0.30	0.24	0.13
Wheat chaff (spring)	14.80	0.91	0.42	0.25
Wheat chaff (winter)	10.56	1.01	0.14	0.19
Wheat straw (spring)	15.00	0.54	0.44	0.18
Wheat straw (winter)	10.36	0.82	0.32	0.11
Beets (red)	87.73	0.24	0.44	0.09
Beets (sugar)	84.65	0.25	0.29	0.08
Beets (yellow fodder)	90.60	0.19	0.46	0.09
Carrots	90.02	0.14	0.54	0.10
Mangolds	87.29	0.19	0.38	0.09
Potatoes	79.75	0.21	0.29	0.07
Rutabagas	87.82	0.21	0.50	0.13
Turnips	87.20	0.22	0.41	0.12
Barley	15.42	2.06	0.73	0.85
Beans	......	4.10	1.20	1.16
Buckwheat	14.10	1.44	0.21	0.44
Corn kernels	10.88	1.82	0.40	0.70
Corn kernels and cobs (cob-meal)	10.00	1.46	0.44	0.60
Hempseed	12.20	2.62	0.97	1.75
Linseed	11.80	3.20	1.04	1.30
Lupines	13.80	5.52	1.14	0.87
Millet	13.00	2.40	0.47	0.91
Oats	20.80	1.75	0.41	0.48
Peas	19.10	4.26	1.23	1.26
Rye	14.90	1.76	0.54	0.82
Soja beans	18.33	5.30	1.99	1.87
Sorghum	14.00	1.48	0.42	0.81
Wheat (spring)	14.75	2.36	0.61	0.89
Wheat (winter)	15.40	2.83	0.50	0.68
Corn meal	13.52	2.05	0.44	0.71
Ground barley	13.43	1.55	0.34	0.66
Hominy feed	8.93	1.63	0.49	0.98
Pea meal	8.85	3.08	0.99	0.82
Rye flour	14.20	1.68	0.65	0.85
Wheat flour	9.83	2.21	0.54	0.57
Apple pomace	80.50	0.23	0.13	0.02
Cotton hulls	10.63	0.75	1.08	0.18
Cotton-seed meal	......	6.52	1.89	2.78
Glucose refuse	8.10	2.62	0.15	0.20
Gluten meal	8.53	5.43	0.05	0.43
Hop refuse	8.98	0.98	0.11	0.20
Linseed cake (new process)	6.12	5.40	1.16	1.42
Linseed cake (old process)	7.79	6.02	1.16	1.65
Malt sprouts	10.28	3.67	1.60	1.40
Oat bran	8.19	2.25	0.66	1.11
Rye middlings	12.54	1.84	0.81	1.26
Spent brewer's grains (dry)	6.98	3.05	1.55	1.26
Spent brewer's grains (wet)	75.01	0.89	0.05	0.31
Wheat bran	11.01	2.83	1.62	2.87
Wheat middlings	9.18	2.63	0.63	0.95
Milk	87.20	0.50	0.17	0.30
Cream	68.80	0.50	0.09	0.15
Skim. milk	90.30	0.50	0.19	0.34
Butter	13.60	0.10	......	......

II.—Compilation of Analyses of Fertilizers, Etc.—(Concluded.)

NAME OF SUBSTANCE.	Moisture.	Nitrogen.	Potash.	Phosphoric acid.
Buttermilk	90.10	0.60	0.09	0.15
Cheese (from unskimmed milk)	38.00	3.80	0.29	0.80
Cheese (from half-skimmed milk)	39.80	5.25	0.29	0.80
Cheese (from separator skimmed milk)	46.00	7.50	0.20	0.80
Beef	77.00	3.60	0.52	0.43
Calf (whole animal)	66.20	2.50	0.24	1.38
Ox	59.70	2.66	0.17	1.86
Pig	52.80	2.00	0.90	0.44
Sheep	59.10	2.24	0.15	1.23
Asparagus	......	0.32	0.12	0.09
Cabbage	......	0.30	0.43	0.11
Cucumbers	......	0.16	0.24	0.12
Lettuce	......	0.20	0.25	0.11
Onions	......	0.27	0.25	0.13

Reasonable Treatment of Apple Trees.

EDWARD VAN ALSTYNE.

The more I think of this subject, the more I wonder, not that the orchards are unproductive, but that they have profitable crops at all, considering the lack of proper fertility and care, the other crops on the land, and the trees crowded within twenty-five or thirty feet of each other.

"Let us reason together" on this subject for a little time. We could not expect a crop of potatoes if they were planted on land that had been producing crops for over fifty or more years, and no fertility were applied, except, perhaps, early in the season a stable manure in the hill; then planted two feet apart each way, and a crop of beans run in between the rows; no effort made to poison the bugs or check the blight. The man who should follow such a course would be considered crazy. Yet that is about the way the apple trees are treated, and men wonder why their orchards don't bear, and say the season is wrong.

I believe, given good healthy trees to start with, on well-drained land, with such care and treatment as I shall indicate, barring frosts, a crop of apples can be grown with as much certainty as any crop on the farm.

If the tree is given enough fertilizer of the right sort, and no harm allowed to come through disease or insects, so that it can mature both fruit and fruit-buds for the next year, I see no reason why we should not have annual crops of apples.

In fact, I have had five years in succession crops of Spitzenbergs, Newtown Pippins, Fall Pippins and Greenings. I believe it possible, by thinning, to have annual crops from such heavy bearers as the Baldwin, but it is not practical.

Let us take up in order the things necessary. First, I place fertility. We must remember that our trees are set on land that has been growing crops for years, and there is not enough available plant food to grow a crop of anything without some sort of additional fertility. How unreasonable, then, to expect the land to grow trees, and later fruit, and another crop besides, with not enough fertility for one. We must remember that most trees, as they come from the nursery, have been grown in a very hot-bed of nitrogenous manure, and are, consequently, soft and easily affected by disease. To apply manure about the roots is only to increase the difficulty. They should be given the elements that will produce an abundance of strong wood, fruit-buds and seeds. These elements are potash and phosphoric acid. The former will give a strong wood, having a tendency to make the tree set fruit, increase the starch in the fruit, and to a degree, at least, heighten the color of both fruit and foliage. The latter will perfect the seed, without which no tree can bear good fruit, and also enhance the quality.

I apply these in the proportion of one part muriate of potash to two parts (by weight) of fine ground raw bone, using for the young trees about two quarts per tree, worked in just below the surface, and applied every second or third year, increasing the amount as the tree increases in size. For large trees, from 200 pounds to 500 pounds, per acre, sown broadcast. This not only supplies what the tree most needs, but what our stable manures lack. Then stable manure will not be out of place. It should always be broadcasted and never piled about the trunks of the trees.

If we use plant food enough for two crops we may then grow something between the trees without detriment to them, if we select the right kind of crops.

This brings me to my second point, that of cultivation, in treating which, I will speak of cropping.

It is of supreme importance that the land be kept cultivated about the growing trees. The practice of making an orchard a grain field or meadow cannot be too seriously condemned. The grain not only takes the elements which the tree needs, but the ripening straw attracts the sun, and the heat is most injurious to the trees. Besides, the stubble of either the grain or grass creates a condition that causes the soil very quickly to evaporate its moisture.

Again, a meadow affords a most excellent lodging place for the larva of many insects. I would, however, recommend for a mature orchard, to turn it into a sheep or hog pasture. Thus some return may be obtained from the land. The stock keep the grass close (and there should be enough to do this) so the evaporation is slight and no larva can live. They fertilize the trees, and eat the affected apples as they fall. Up to date this is the only way known to destroy the apple maggot. There should be some grain fed to the stock as a sure way to enrich the land. I have followed this course for eighteen years with the very best results.

Some one says, would you advise simply stirring the land, and put nothing between the trees as a crop? While this is done with most excellent results, I do not believe it is necessary, or always in the line of economy. The land can be cropped without detriment to the trees if the right kind of crop is used and sufficient plant food put into the soil to supply the need of both trees and crop. If only enough is used for one, for the first ten years the trees will be the greatest sufferers, and the time of fruiting be much delayed. The old idea that "he who plants apples plants for the next generation" is a fallacy; for, if the orchard is properly managed, it should and will bear profitable crops of fruit ten years from setting.

I would advise such crops as corn and potatoes, that can be worked through the early part of the season, and that shade the soil during the summer months. Then seed about once in five years with clover. If the crimson clover meets our expectations, it will solve the problem of seeding. For it may be sown with the growing crops and turned under the next season as a valuable source of plant food, not only, but giving the soil that porosity so much desired.

My practice has been to seed with red clover, sowing it alone, with buckwheat, or winter grain sown in August, and the grain cut green in May or June for fodder, after which the clover will come up and shade the ground; this mown one year and the next spring turned under for a cultivated crop. I have also had excellent success seeding with oats and peas, cut when green, for soiling.

I have a very marked illustration of the value of cultivation in a young orchard set three years ago, where the land has been treated as herein indicated, and a row of trees set along the fence at the same time, trees of the same age and variety. They have all had the same amount and kind of fertility. The soil about those next to the fence has been stirred up with a fork from time to time. To-day those that have been thoroughly cultivated are half larger than those along the fence, and the soil next to the fence is doubtless the best in the orchard.

The practice of working the soil late in the season (say August and September) I believe to be a dangerous one, as it induces a late growth of wood that is very apt to suffer from the cold of winter.

Third, I would place pruning. If this is done yearly, from the time the trees are set, it will only be necessary to remove small branches of superfluous wood, and an occasional dead or broken limb. It is folly to allow a limb to grow to be as large as a man's arm and then cut it off, because it is too near the ground. The removing of such limbs not only injures the tree but it is a waste of fertility to grow stove-wood.

In far too many orchards the pruning takes place about once in five years, when the owner or "hired man" sails in with an ax and saw and cuts out the summer's oven wood, leaving the trees in the same state as was the man who went from Jerusalem to Jericho and fell among thieves, "who stripped him of his raiment, beat him, and left him half dead." This is so common that one can hardly travel any country road without passing orchards thus abused, with stubs left all through the trees long enough to hang a basket on.

The best time to trim is when one has the time, and his saw is sharp. First take out the water sprouts and dead branches, then the smaller limbs, where they are too thickly entangled. We must prune not only for sunlight, but so that we can thoroughly spray. Always cut a limb close to the body of the tree, and leave as little exposed wood as possible, and always so the water will run off the cut surface. Then, too, it is not wise to have all the fruit-buds at the extremity of the limbs, which causes not only an uneven distribution of fruit, but reduces it in size and makes it of poor color. Better have a set of fruit over the entire tree, even on the interior of the large limbs. It will always pay to cover the places from which large branches have been taken with something to keep out the water. I have never found anything better than a thick paint made from Venetian red and oil.

Fourth and last, we will take up the matter of spraying. I have been spraying for eight years with the best results, and am a firm believer in, and enthusiastic recommender of, the practice. Yet, I want to say very plainly, that he who neglects what I have heretofore recommended, and sprays, will certainly be disappointed. He has begun at the wrong end. Spraying will not fertilize or cultivate the soil nor prune the trees. This must be done if we are to get the best results. It is the weak, poorly nourished, ill-grown plant that is most quickly attacked by insects and disease. The less vigor in the plant itself the greater number of insects and amount of disease to fight, and the more difficult and unsatisfactory the task.

As to the different sprays, and the time and manner of application, I shall not now speak in detail, because the various spray calendars are very full, complete and correct, and within the reach of all. I can scarcely speak too highly of the Bordeaux mixture, not only as a preventative of scab, but as a preserver of foliage, and were I obliged to choose between this fungicide and an insecticide, I should choose the Bordeaux, and trust to the increased vigor of the tree through perfect foliage to withstand the attacks of insects. Fortunately, we can use both, by dissolving the vitriol in a sack and straining both lime and vitriol through a wire strainer, and using the yellow precipitate of potash test to determine the amount of lime. I have little difficulty in applying the Bordeaux mixture. I believe the most important spray to be just before the buds swell, and in an ordinary season two more; the next, applied with the Paris green, just after the blossoms fall, and the last about June first, is all that is necessary. As to the insecticides, I prefer the Paris green, and find it beneficial with every fifty gallons of the green and water to use about a gallon of strong lime-water. It will prevent the burning of the foliage by the green being too strong or improperly mixed, and also make it adhere better to the leaves. Very much (so-called) spraying is done that gives no results, either because it was not done at the proper time or not done thoroughly. He who, when an idle day comes, goes into the orchard and throws a little liquid on his trees, hit or miss, may pat himself on the back and call it spraying, but he will get little or no result when fall comes. We spray for a definite object, fungus and insects.

Let us, then, find the time when the fungus develops and can be held in check, and the kind and habits of the insects that affect our own orchards, and what will destroy them, and then act accordingly. To put on Bordeaux after the scab is well developed, or apply only here and there on the trees, is of little use. Or to try and poison an insect after that insect has got to a point or place where the poison will not reach him is as valueless. If the work is to be done it must be done at the proper time, and thoroughly or not at all. This should be easily apparent to any thinking person.

A good pump is also very essential. The job is a very disagreeable one at best, and poor tools only make it more so. The working parts of the pumps should be entirely of brass. It should have an agitator that agitates, should work easily, and yet be of sufficient power to reach the tops of the highest trees; withal as simple in construction as possible. A rod attached to a hose, with a nozzle on the other end, and a cut-off convenient for the hand to reach, will also add much to the ease with which the job can be done. For high trees it will pay to have an elevated platform on the wagon, in which the man holding the rod can sit or stand, and more easily reach the tops of the trees, and thus thoroughly do the work.

It may be of interest and value, if, in closing, I give you a few illustrations from my own experience in spraying. First, as to the effect of Paris green on the fruit.

Two years ago, owing, first to the rain at spraying time, and later to the fact that there were strawberries in a part of the orchard, one orchard, largely Baldwins, was not sprayed. In this orchard, very early in the season, the fruit began to drop, and continued to do so, while in the one sprayed, with just a fence between, very few apples dropped at all. I sold the fruit, such as was absolutely perfect. To make it so in the sprayed orchard, we rejected one barrel out of eleven. The eleventh, or rejected one, selling in the New York market for one dollar and fifty cents. In the unsprayed orchard we rejected one barrel out of three, and the third barrel was unfit for but little else than cider. I figure it cost me $100 not to have sprayed that orchard, although it contained only about four acres.

Next, as to the effect of Bordeaux on the foliage. A year ago, in spraying Greenings the second time, the men ran short about half a barrel of Bordeaux to finish that variety, so they were finished with Paris green alone. At the next spraying (doing the work myself) I noticed, on coming to the Greenings, that the trees looked black and the foliage yellow, but after passing eight or ten trees, the rest looked as healthy as any trees in the orchard. I could assign no cause for it, and as I came up the other side of the same row, I found the trees healthy to the end of the row, when I remarked to the man with me, "that is where you ran short of Bordeaux," and he replied "that is a fact." I cannot convey to you the difference in the appearance of the other two sides of the same trees, the one sprayed with Bordeaux and the other unsprayed.

Finally, as to the Bordeaux's effect on the fruit. I have in one orchard eighteen or twenty Newtown Pippin trees, standing very close together, on low, rather heavy soil, and beneath a hill, so that the circulation of air and sunlight through them was not particularly good; just the place for scab to prevail, and where we have had very much trouble with it. In the same orchard, on the outside row, on high, dry ground, were two trees of the same variety. Those I sprayed with Paris green, but not with Bordeaux. The others were sprayed thoroughly with both. When the apples were fit to gather, it was remarked by many who saw them, that the Pippins on the sprayed trees were the finest they had ever seen. In fact, very few could be found that were affected by scab. On the two trees favorably situated at least one-third of the fruit was scabby. Does it pay to spray?

These I believe to be the essentials of how to make unprofitable apple trees productive; and though now and then we may find an orchard that has not responded to such treatment, they are rare, and the failure must be attributed to natural barrenness or climatic conditions entirely beyond human control.

Requisites to Successful Potato Culture.

L. D. GALE.

Nobody can keep up with the times unless he knows what other people are doing, and especially is this so in our vocation of farming. Lawyers must keep posted on the latest rulings of the higher courts, and know the decisions of all doubtful points of law, if they become successful in their profession. Doctors must study to keep up with the great improvements made in the last few years in surgery and the practice of medicine. If a merchant failed to keep posted in the latest styles and neglected to keep them in stock for his customers, he would soon be without trade. Manufacturers of all kinds must lay aside the machine of yesterday, and put in the latest improved, or be running at a loss. The world moves. This is a mechanical age. Machinery must take the place of hand labor. It has been said that agriculture is not keeping up. So the State of New York, as well as nearly every other State in the Union, has organized Farmers' Institutes, and sends instruction to you free of charge.

Successful potato culture depends more on the man than on any fixed set of rules I may be able to lay down. No crop shows the effect of intelligent handling so readily as potatoes. Each year brings such a variety of conditions and places us under such different circumstances from the preceding one, that it is by a constant study, and only by understanding the nature of our soil, the habits of the variety of potatoes under cultivation, the right hour to begin cultivation to most effectually kill the weeds and conserve moisture, that we may expect to grow potatoes successfully.

All soils are not adapted to the growing of potatoes. The best suited to this crop is a sandy or gravelly loam (clay soils under favorable conditions sometimes produce good crops). Whichever is chosen, they must be free from wire-worms, the scab fungus, and either naturally dry or well underdrained; added to this, then, must be the needed amount of fertility, derived either from the plowing under of a good clover sod, the application of stable manure or the use of a commercial fertilizer, or better, perhaps, a combination of them all, bearing in mind that clover sod and stable manure are rich in nitrogen and phosphoric acid and deficient in potash.

If stable manure is used it is best applied during the fall or early winter, and should be dragged or brushed until it is made very fine. In that condition the fertilizing elements are carried into the soil, when they are taken up by the grass and clover roots, and assimilated ready for the crop of potatoes to feed upon. The application of fresh stable manure, either to be plowed under, or as a top-dressing after plowing, should be avoided, as the tendency of soil so treated is to produce tubers more or less scabbed.

I prefer to plow rather deep for potatoes, and think eight inches gives me the best results. Aim to lay out the field as long as possible, to avoid turning. Do not plow the field in the good old way, by going around the whole field at a time, but back-furrow as wide as convenient, then strike another back-furrow far enough away so that when finished there will be an unplowed strip between the two, equal in width to one of the back-furrows; finish this by plowing up one side and down the other, throwing the plow out at each end. This will leave an unplowed strip at each end, giving sufficient room to turn upon while tending the crop, to drive the spray cart, and to draw water. I used to plant close out to the fence, but have come to the conclusion that the additional potatoes dug from the end of the rows did not pay for the inconvenience.

As soon as plowing is finished, or perhaps better, as fast as plowed, go over with the roller, which brings the furrows down even. If the soil has a tendency to bake, the roller and drag should follow close after the plow. I fit by going crosswise of furrow with the cutaway, and lengthwise with the spring-tooth harrow, finishing with the smoothing harrow with three horses attached, riding upon the harrow. The field is ready to plant when I can go over and dig down four or five inches with my hand. If the work has been carefully and thoroughly done, there will not be any sods on the field to bother the weeder or cultivator in after-cultivation.

PLANTING.

I have used the Aspinwall planter for the past four years. This machine opens the furrows, drops the seed and covers it as it is drawn across the field. But I must admit that its work is not entirely satisfactory, as the best I could do this year, my crop averaged, in hills skipped, one in every 10. My average yield in 1894 was 200 bushels to the acre. Had I succeeded in having a perfect stand, I assume my yield would have been 20 bushels more to the acre. At 50 cents per bushel, the average market price for potatoes, my gain would have been $10 per acre, which would more than pay for planting by hand, providing I could have got the help at the right time. As that is usually impossible, I shall give some of the new planters put on the market a trial, and hope to be able to find one that will do more satisfactory work.

SEED POTATOES.

I plant only potatoes of merchantable size, treating all seed before planting with the corrosive sublimate solution: Two ounces corrosive sublimate to 16 gallons of water, allowing the potatoes to soak one and one-half hours, always dipping the seed before cutting. I have planted seed treated as above that was so badly scabbed as to be entirely worthless for the market, planting on land that was known to be free from the fungus spores, and produced a crop that was entirely free from any trace of the disease.

Great care should be used, after the seed has been treated, not to allow it to come into contact with any boxes, barrels or sacks that have previously contained diseased tubers. If new crates or sacks are not at hand, put the old ones to soak before using them.

It must be remembered that if the parasite or fungus is once introduced into the soil, it may remain there for years. Therefore, great care should be used in selecting seed that the disease may not be transmitted to the field that has heretofore been free from the fungus.

The feeding of diseased potatoes to stock is another source of transmitting the spores to the soil. Dr. Roland Thaxter, of the Connecticut Experiment Station, says on this subject, "That the practice of feeding scabby tubers to stock is one of the most important means by which the disease is spread on our farms. In view of the well-known fact that great numbers of fungus spores can and do pass through the digestive tract without injury, and that the scab fungus is known to grow luxuriantly in dessications of horse or cow dung, it is not unreasonable to assume that its spores, passing through the digestive tracts of stock, fed with diseased potatoes, continue their development in the manure after evacuation."

CUTTING SEED.

There is probably no part of the work that has a greater influence on the yield than the preparing of the seed. I am indebted to the bulletins from the different experiment stations for the following tables, showing the difference in yield, from seed cut to different sizes. The general conclusion to be arrived at, after the careful perusal of bulletins bearing on this point from 12 different experimental stations, extending from Louisiana in the south, Massachusetts in the east, Wisconsin on the north, to Nevada and Utah on the west, all report the same results, that an increase of seed from one eye up to the half of an ordinary-sized potato produces a marked increase both in merchantable and total yields of the crop, and also in the net value of the crop, seed taken out. Of 95 experiments by the different stations, 76 are in favor of a medium-sized potato cut in halves; 19 are in favor of two eyes.

It is also proven by experiments that a greater yield can often be had by planting whole potatoes, but that the extra amount of seed, when deducted from the net value of the crop, shows that it is more profitable to plant cut seed, as shown by the following tables:

No. 1, taken from Michigan Experiment Station Report, shows the increased yield from one eye to the whole potato; also the net gain over cost of seed:

	Total yield.	Cost of seed.	Amount planted.	Net value merchant tubers.	Gain above cost of seed.
One eye	88	$1 35	2.7	$34 32	$32 97
One-quarter potato	181	3 00	6	70 40	67 40
One-half potato	203	6 00	12	76 12	70 12
Whole potato	212	12 00	24	80 50	68 52

No. 2, as the results of seven different tests, using seven different varieties of potatoes, made by Louisiana Station:

	Total yield.	Small.	Large.	Seed planted.	Gain in bushels above seed planted.
One eye	188	13	174	6	168
Two or more	249	17	230	15	215
Whole, medium	256	20	234	84	199
Whole, large	312	29	283	87	196

No. 3, showing increase from one to four eyes, taken from the New Potato Culture, by E. S. Carman. Method of planting one by three feet, and is the result of two tests with the White Star and Peach-blow potatoes:

SEED.	Total yield.	Increase.
One eye	171	....
Two eyes	252	81
Three eyes	282	30
Four eyes	322	40
Gain four over one eye	....	151

From the careful comparison of the different bulletins and experiments in my own fields, I believe from 12 to 20 bushels of seed to the acre, as a general rule, gives the largest net returns, whether the potatoes are of a size to plant whole, cut in halves, quarters or less.

There is so much difference in the size and habits of the different varieties, and the conditions and fertility of the soil, that it would not be safe to apply any fixed rule for the cutting of seed potatoes. Do not cut potatoes any faster than ready to plant them. If doing the work by hand, open the furrows only as fast as needed. Drop the seed in fresh soil and cover at once.

HILLS OR DRILLS.

As a result of 32 experiments made by the Michigan Agricultural College, using the same amount of seed in each class, the greatest yields were in favor of the drill system, as shown by the following tables:

Yield in Hills (in Bushels to the Acre).

VARIETIES.	One eye.	Two eyes.	Half potato.	Whole potato.
Rural New Yorker, No. 2	162	198	187	182
Pearl of Savoy	38	46	66	112

Yield in Drills.

VARIETIES.	One eye.	Two eyes.	Half potato.	Whole potato.
Rural New Yorker, No. 2	181	210	199	213
Pearl of Savoy	70	81	94	136
Gain in favor of drills	50	47	40	55

My own observations are that three by one and one-half feet is the safest distance to recommend. Some varieties will bear closer planting than others. All growers should settle this question for themselves, by knowing the fertility of their soil and the habits of the variety under cultivation. I prefer to have the tops completely cover the ground when they are at their best.

Cultivation begins in four or five days after planting. The smoothing harrow is used every three to five days until plants appear above the ground, then the weeder is substituted. The weeder is the fine tooth comb of agricultural implements. If the weeder is used at the right time no weeds can possibly get a start. It will do the work of ten men with hoes. Besides killing weeds, it produces a fine mulch of earth, which is very beneficial in conserving moisture in a season like the one just past. When the rows can be followed easily I go through with the cultivator, letting it run as deep as possible. Follow in two or three days with weeder. Cultivation is alternated in that way until the plants are 10 or 12 inches high. After that the cultivator is run as often as thought necessary throughout the growing season. My last cultivation the past season was made late in July and was for the purpose of holding moisture. No hilling is done, except what soil is naturally worked by the cultivator toward the rows. No hand-work was applied to my crop, except cutting the seed and picking up the potatoes after the digger. There was not weeds enough in the field to fill a bushel basket. The yield averaged over 200 bushels, one variety yielding 340 bushels to the acre.

SPRAYING.

I use a double discharge spray-pump, mounted upon a two-wheeled cart, wheels six feet from center to center, drawn by two horses. A long neck yoke and evener is used so two rows are covered each time across the field. One pound of Paris green was used to each 50 gallons of water. Three-fourths being added at first, the balance being added when the barrel was about one-half emptied.

DIGGING.

A potato digger is used, which does very satisfactory work, if the crop has received level culture. I very much prefer a digger of some kind, even could the work progress no faster, as the potatoes are left in so much better shape, being free from fork marks. I have seen otherwise very fine potatoes nearly ruined for market by careless digging.

LIST OF INSTITUTES.

Date.		PLACE.	County.
1895.			
October	1	Alfred	Allegany
"	2	Moravia	Cayuga.
"	4	Groton City	Tompkins.
"	5	Syracuse	Onondaga.
"	12	Bowens Corners	Oswego.
"	14	Moons Mills	Dutchess.
"	16	Wallkill	Ulster.
"	17	Clinton Corners	Dutchess.
"	26	Peck Hill	Onondaga.
"	29	Sandusky	Cattaraugus.
"	30	Hume	Allegany.
November	1	Hornellsville	Steuben.
"	2	Knowlesville	Orleans.
"	6	Ouleout	Delaware.
"	6	Columbia Centre	Herkimer.
"	7	East Delhi	Delaware.
"	7	Jordanville	Herkimer.
"	8	Bovina Centre	Delaware.
"	11	Henderson	Herkimer.
"	12	Cuba	Allegany.
"	12	Denisons Corners	Herkimer.
"	15	West Dryden	Tompkins.
"	16	Syracuse	Onondaga.
"	19	Nelson	Madison.
"	19–20	Clarksville	Albany.
"	20	West Eaton	Madison.
"	20	West Burlington	Otsego.
"	21	Ketchum's Corners	Saratoga.
"	21	Georgetown	Madison.
"	22–23	South Otselic	Chenango.
"	25–26	Cincinnatus	Cortland.
"	29	Dresden	Washington.
"	30	Putnam	Washington.
December	2–3	Peru	Clinton.
"	2	Franklin	Delaware.
"	2–3	Central Bridge	Schoharie.
"	3	Treadwell	Delaware.
"	4-5	Breakabeen	Schoharie.
"	4–5	Hamden	Delaware.
"	4–5	West Chazy	Clinton.
"	6–7	Cobleskill	Schoharie.
"	6–7	Ellenburg Depot	Clinton.
"	9	Richmondville	Schoharie.
"	9–10	North Bangor	Franklin.
"	9–10	Westfield	Chautauqua.
"	10–11	State Dairy Association, Syracuse	Onondaga.
"	12	Moira	Franklin.
"	12	Sidney	Delaware.
"	12–13	Winthrop	St. Lawrence.
"	12–13	Angola	Erie.
"	12	Rockdale	Chenango.
"	13–14	Massena	St. Lawrence.
"	13–14	Sherman	Chautauqua.
"	13–14	Edmeston	Otsego.
"	16	Lisbon Centre	St. Lawrence.
"	16–17	Mount Upton	Chenango
"	17	Herman	St. Lawrence.
"	16–17	Jamestown	Chautauqua.

List of Institutes — (*Continued*).

Date.		PLACE.	County.
1895.			
December	17	Edwards	St. Lawrence.
"	17	Edwardsville	St. Lawrence.
"	17–18	Afton	Chenango.
"	18–19	Ellington	Cattaraugus.
"	18–19	Hammond	St. Lawrence.
"	19	Cottage	Cattaraugus.
"	19	Lisle	Broome.
"	20–21	La Fargeville	Jefferson.
"	20–21	Collins Centre	Erie.
"	20–21	Oxford	Chenango.
"	21	Carthage	Jefferson.
"	22	Dexter	Jefferson.
"	23–24	Lockport	Niagara.
"	23–24	Earlville	Madison.
"	23–24	Adams Centre	Jefferson.
"	26	Burnt Hills	Saratoga.
"	26–27	Madison	Madison.
"	27–28	Penn Yan	Yates.
"	27–28	Clifton Park	Saratoga.
"	27–28	Knoxboro	Oneida.
"	28	Beckers Corners	Albany.
"	30–31	Vernon	Oneida..
"	30–31	Hagamans	Montgomery.
1896.			
January.	2–3	Camden	Oneida.
"	2	Lyndonville	Orleans.
"	2–3	Johnstown	Fulton.
"	3–4	Belleville	Jefferson.
"	4	Glen	Montgomery.
"	6–7	Pulaski	Oswego.
"	6–7	Newport	Herkimer.
"	6	Clinton	Oneida.
"	7	Central Square	Oswego.
"	7	Chadwicks	Oneida.
"	8	Higginsville	Oneida.
"	8–9	Fulton	Oswego.
"	9–10	Hannibal	Oswego.
"	9–10	DeRuyter	Madison.
"	10–11	Cortland	Cortland.
"	10–11	Wolcott	Wayne.
"	13–14	Marathon	Cortland.
"	13	Williamson	Wayne.
"	14–15	Union	Broome.
"	14	Ontario	Wayne.
"	15–16	Rose	Wayne.
"	15–16	Harpersville	Broome.
"	16	Nassau	Rensselaer.
"	17	Corbettsville	Broome.
"	17	Newtonville	Albany.
"	17	Elbridge	Onondaga.
"	17–18	Deposit	Broome.
"	18	Baldwinsville	Onondaga.
"	20–21	Otisville	Orange.
"	20–21	Fayetteville	Onondaga.
"	21–22	Marcellus	Onondaga.
"	22–23	Monticello	Sullivan.
"	22–23	Skaneateles	Onondaga.
"	23–24	Seneca Falls	Seneca.
"	24–25	Bloomingburg	Sullivan.

List of Institutes — (*Continued*).

Date.	PLACE.	County.
1896.		
January 24–25	Clifton Springs	Ontario.
“ 27–28	Waterloo	Seneca.
“ 27–28	Bullville	Orange.
“ 28–29	Ovid Centre	Seneca.
“ 28	Ithaca	Tompkins.
“ 29–30	Trumansburg	Tompkins.
“ 29–30	Unionville	Orange.
“ 30	Phelps	Ontario.
“ 31 Feb. 1	Wallkill	Ulster.
“ 31 “ 1	Pittsford	Monroe.
February 3–4	Batavia	Genesee.
“ 3–4	Spring Valley	Rockland.
“ 4–5	Akron	Erie.
“ 5–6	Riverhead	Suffolk.
“ 6–7	Medina	Orleans.
“ 7–8	Williamsville	Erie.
“ 4	Ithaca	Tompkins.
“ 7–8	Yorktown	Westchester.
“ 10–11	Wales Centre	Erie.
“ 10–11	Southold	Suffolk.
“ 10–11	Fishkill	Dutchess.
“ 11	Holland	Erie.
“ 11–12	Delavan	Cattaraugus.
“ 12–13	Highland	Ulster.
“ 12–13	Northville	Suffolk.
“ 13–14	Franklinville	Cattaraugus.
“ 14–15	Olean	Cattaraugus.
“ 14–15	Rhinebeck	Dutchess.
“ 17	Stockport	Columbia.
“ 17–18	Belfast	Allegany.
“ 17–18	Southampton	Suffolk.
“ 18–19	Hume	Allegany.
“ 19–20	Riverhead	Suffolk.
“ 18–19	East Greenbush	Rensselaer.
“ 19	Greenwich	Washington.
“ 20	Easton	Washington.
“ 20–21	Pike	Wyoming.
“ 21–22	Valley Falls	Rensselaer.
“ 21–22	Peru	Wyoming.
“ 21–22	Jamaica	Queens.
“ 24–25	West Sand Lake	Rensselaer.
“ 25	Pattersonville	Schenectady.
“ 22	Skaneateles	Onondaga.
“ 24–25	East Bloomfield	Ontario.
“ 25	Plattsburgh	Clinton.
“ 25	Ithaca	Tompkins.
“ 25–26	Avon	Livingston.
“ 26	Wayland	Steuben.
“ 26–27	Fonda	Montgomery.
“ 27	Rural Grove	Montgomery.
“ 27–28	Dansville	Livingston.
“ 28–29	Herkimer	Herkimer.
“ 28–29	Hornellsville	Steuben.
March 2–3	Richfield Springs	Otsego.
“ 2–3	Alfred Centre	Allegany.
“ 3	Unadilla Forks	Otsego.
“ 3–4	Angelica	Allegany.
“ 4	Remsen	Oneida.

List of Institutes — (*Concluded*).

Date.		Place.	County.
1896.			
March	5	Ripley	Chautauqua.
"	4-5	Boonville	Oneida.
"	4-5	Friendship	Allegany.
"	6-7	Cohocton	Steuben.
"	6-7	Turin	Lewis.
"	7	Beachville	Steuben.
"	9-10	Lowville	Lewis.
"	9-10	Bath	Steuben.
"	10	Horseheads	Chemung.
"	11	Denmark	Lewis.
"	11-12	Gouverneur	St. Lawrence.
"	12	Parma	Monroe.
"	12	Nichols	Tioga.
"	12	Depauville	Jefferson.
"	13	Ithaca	Tompkins.
"	13	Woodville	Jefferson.
"	13-14	Owego	Tioga.
"	13-14	Lacona	Oswego.
"	16	Berkshire	Tioga.
"	16	Spencer	Tioga.
"	17	Freeville	Tompkins.
"	17-18	Odessa	Schuyler.
"	18	Brookton	Tompkins.
"	16-17	Jefferson	Schoharie.
"	18	Gilboa	Schoharie.
"	19	Margaretville	Delaware.
"	19	Lodi	Seneca.
"	19-20	Locke	Cayuga.
"	20	Dresserville	Cayuga.
"	20-21	Walden	Orange.
"	20-21	Reynoldsville	Schuyler.
"	21	Sennett	Cayuga.
"	23-24	Ira	Cayuga.
"	23-24	Tyrone	Schuyler.
"	25	Scipioville	Cayuga.
"	25-26	Albion	Orleans.
"	25-26	Wellsburg	Chemung.
"	26	Halls Corners	Ontario.
"	26-27	Hornellsville	Steuben.
"	26-27	Penfield	Monroe.
April	3	Bristol Springs	Ontario.
"	7	Hume	Allegany.
"	18	Auburn	Cayuga.
"	25	Pendleton Centre	Niagara.
May	1	Halls Corners	Ontario.
"	2	Shelby	Orleans.
"	19	Montgomery	Orange.
"	23	Model City	Niagara.
"	28-29	Martinsburg	Lewis.
June	3	Sodus	Wayne.
"	6	Ridgway	Orleans.
"	8	Watervale	Onondaga.
"	11	Gravesville	Herkimer.
"	13	Yorktown	Westchester.
"	13	Aurelius	Cayuga.
"	19	Dresserville	Cayuga.
"	23	Denmark	Lewis.
"	25	Logan	Schuyler.
July	7	Rushford	Allegany.

The number of Farmers' Institutes held, and the cost of the same from October 1, 1895, to July 15, 1896:

Stationery	$102 35	
Postage	62 52	
Express on reports	147 66	
Difference on exchange of typewriters	80 00	
		$392 53
Total number of days on which meetings were held, 354; average cost per day, $40.055		14,180 42
Total expended		$14,572 95

After turning the institute work over to Mr. Dawley, the middle of July, my time was taken up in visiting cheese factories and creameries, giving instruction when requested. I also, by your direction, have given considerable time to the work of milk and vinegar inspection, assisting the local agents of the Department in different parts of the State, with the purpose of making that branch of the work as effective as possible. As I understand, it has been realized by the heads of the Department for some time that in order to obtain the best results, uniformity in the work of the agents was of the first importance. I have made an especial point of explaining the plan of inspection, which is said to be most effective by leading chemists who have made a careful study of the subject, and am quite sure that this line of work has been a benefit, and think it is for the best interest of the Department that something of the same kind of work should be continued. The object of the law is to protect the consumers, and anything that can be done to make the law more effective is a step in the right direction.

Respectfully yours,

GEORGE A. SMITH.

REPORT OF F. E. DAWLEY.

Hon. C. A. Wieting, *Commissioner of Agriculture:*

My Dear Sir.—It gives me pleasure to submit my report as Director of Farmers' Institutes, covering the period between July 15, 1896, and October 1st of the same year.

When, upon my appointment, I took up the management of the Institutes, I found that my predecessor, Mr. George A. Smith, had arranged for a few summer meetings. These I have held. I have also arranged and held as many others, which were asked for, as seemed practicable.

The meetings were held as follows:

List of Institutes.

Date.		PLACE.	County.
1896.			
July	17	Holmesville	Oswego.
August	4	Centerville	Allegany.
"	5	Oswego Falls	Oswego.
"	5	Utica	Oneida.
"	5	Fultonham	Schoharie.
"	6	North Collins	Erie.
"	6	Seward	Schoharie.
"	8	Grovenor Corners	Schoharie.
"	15	Morris	Otsego.
"	19	Summit	Schoharie.
"	20	Waddington	St. Lawrence.
"	20	Schodack Centre	Rensselaer.
"	22	Medway	Greene.
"	26	Outing Park	Niagara.
"	27	Peru	Clinton.
September	1-4	State Fair Grounds, Syracuse	Onondaga.
"	8	Salt Point	Dutchess.
"	9	Stamford	Delaware.
"	18	Pompey	Onondaga.
"	19	Orangeport	Niagara.
"	19	Charlton	Saratoga.

In all, twenty-four days of meeting, at an average cost of $34.837 per day.

In holding these meetings and preparing for the coming year's work, I have expended for meetings....	$826 11
Reading proof of 1895 report......................	27 00
Stationery and printing...........................	71 50
Postage and telegrams.............................	28 75
	$953 36

I have been assisted at the meetings by Mr. Smith, the former Director, by Prof. W. H. Jordan, Director of the State Experiment Station at Geneva, and the corps of workers who have so ably assisted Mr. Smith during the past year, and who are mentioned in his report which accompanies this.

I believe fully from my experience in the past that in order to make the Institutes in New York State a success, we must bear in mind the fact that our farmers want men to attend their meetings who are thoroughly competent to instruct them; scientific men and specialists who have no pet theories to expound; farmers who are practical and who have been successful in their line, and, having put their ideas into practice, can show results at home. Aside from all this, the Farmers' Institute worker must be a thorough student and well posted regarding all matters pertaining to the scientific side of his special line, and be a fluent and easy speaker, capable of holding the attention of his audience.

That our farmers are pleased with the Institutes is evidenced by the results all over the State, and by the fact that about 400 meetings have already been asked for to be held the coming winter. We cannot hold to exceed one-half this number and still keep within the appropriation, but I shall endeavor to arrange them in such a way as to give the greatest good to the greatest number.

Yours very respectfully,
F. E. DAWLEY.

FINANCIAL REPORTS

OF THE

State Agricultural Society, County, Town, and Other Agricultural Societies in the State of New York for the Year 1896.

STATE.

NEW YORK STATE.

RECEIPTS.

Balance as per last report		$2,405 13
From gate receipts	$13,587 00	
From rent of grounds	321 60	
From rent of privileges	2,099 44	
From annual members	637 00	
From sundries	55 69	
From life members	140 00	
From freight and cartage	2,341 18	
From entries for races	2,180 50	
From forage	891 12	
From State	32,808 74	
From stall rent	1,208 50	
From bills payable	8,500 00	
From special prizes	200 00	
Receipts for 1896		64,970 77
Total receipts		$67,375 90

DISBURSEMENTS.

Due from last year (old acounts)	$255 50
For permanent improvements	12,247 99
For labor on fair grounds and during fair	585 72
For material, stationery, postage, insurance and sundries	1,309 43
For salaries and executive committee expenses	5,311 85
For interest	3,166 59

For fair expenses		$19,012 05	
For payment on indebtedness		2,500 00	
For race department expenses		534 76	
For premiums on horses	$6,299 41		
For premiums on cattle	4,705 77		
For premiums on sheep	1,913 00		
For premiums on swine	2,054 90		
For premiums on poultry	1,340 85		
For premiums on farm produce	866 45		
For premiums on dairy products	900 00		
For premiums on domestic	767 85		
For premiums on flowers	853 00		
For premiums on fruits	1,723 22		
Total premiums		21,424 45	
Total disbursements			$66,348 34
Balance (debit)			$1,027 56

I. P. Roberts................................ President.
W. Judson Smith................................ Treasurer.

COUNTY.

ALBANY—ALTAMONT DRIVING PARK AND FAIR ASSOCIATION.

RECEIPTS.

Balance as per last report		$300 92
From gate receipts	$3,004 50	
From error in report 1895	1 00	
From rent of grounds	20 00	
From rent of privileges	756 04	
From sale of capital stock	70 00	
From entries for exhibits	151 00	
From sale of material	6 00	
From advertising	189 00	
From entries for races	625 00	
From State	670 50	
From money borrowed on notes	2,032 00	
From penalties collected for National Trotting Association	22 50	
From National Trotting Association, penalties, races, 1895	155 00	
From sale of feed	88 48	
Receipts for 1896		7,791 02
Total receipts		$8,091 94

DISBURSEMENTS.

For permanent improvements	$2,574 77
For labor	382 89
For feed and hay	518 08
For material	127 48
For unpaid premiums of 1895	6 50
For salaries	89 50

For printing, postage and advertising		$402 53	
For taxes and fixed charges		124 98	
For race entry, refunded		10 00	
For miscellaneous expenses		383 89	
For penalties collected and paid to National Trotting Association		22 50	
For payment on indebtedness		250 00	
For interest on indebtedness		29 50	
For race purses		1,440 00	
For premiums on horses	$125 00		
For premiums on cattle	473 50		
For premiums on sheep	250 50		
For premiums on swine	126 50		
For premiums on poultry	230 25		
For premiums on farm produce	139 50		
For premiums on domestic	290 50		
For premiums on implements and machines	53 25		
For premiums on flowers	75		
For premiums on fruits	17 50		
For premiums on babies	15 00		
Total premiums		1,722 25	
Total disbursements			$8,084 87
Balance (credit)			$7 07

NOTE.—The National Exchange Bank holds a note for $1,800, not yet due.

Isaac H. Reamer.................................... President.
James O. Stitt.................................... Treasurer.

ALLEGANY.

RECEIPTS.

From gate receipts	$682 39
From sale of tent	6 00
From rent of privileges	116 00

From annual members and Class 12		$107 00	
From entries for races		192 75	
From State		488 87	
From borrowed money		371 33	
Receipts for 1896			$1,964 34
Total receipts			$1,964 34

DISBURSEMENTS.

Due from last year		$185 31	
For permanent improvements		371 51	
For labor and advertising		187 89	
For material and merchandise		108 89	
For salaries		91 00	
For printing and band		112 25	
For balloon, special attractions and stabling		86 50	
For payment on indebtedness		25 75	
For race purses		524 50	
For premiums on horses	$120 00		
For premiums on cattle	111 00		
For premiums on sheep	51 00		
For premiums on swine	18 50		
For premiums on poultry	10 25		
For premiums on farm produce	28 00		
For premiums on dairy products	3 00		
For premiums on domestic	92 95		
For premiums on flowers	15 25		
For premiums on fruits	4 00		
For premiums on miscellaneous	3 75		
Total premiums		457 70	
Total disbursements			2,151 30
Balance (debit)			$186 96

A. Hooker.................................. President.
Frank H. Jackson.......................... Treasurer.

BROOME.

RECEIPTS.

From gate receipts	$2,179 35	
From rent of privileges	638 50	
From entries for races	352 00	
From State	692 32	
From stock sold	24 00	
Receipts for 1896		$3,886 17
Total receipts		$3,886 17

DISBURSEMENTS.

For permanent improvements		$125 00
For labor		594 29
For material (lumber, hay, straw and grain)		385 77
For salaries		215 00
For attractions and dues to State Association Agricultural Society		155 00
For rent of grounds and insurance		269 75
For payment on indebtedness		66 36
For race purses		700 00
For premiums on horses	$167 00	
For premiums on cattle	494 50	
For premiums on sheep	45 25	
For premiums on swine	9 00	
For premiums on poultry	181 75	
For premiums on farm produce	41 00	
For premiums on dairy products	11 00	
For premiums on domestic	88 50	
For premiums on implements and machines	65 75	
For premiums on flowers	12 75	

For premiums on fruits	$66 50		
For premiums on miscellaneous	170 00		
Total premiums		$1,353 00	
Total disbursements			$3,864 17
Balance (credit)			$22 00

H. J. Walters.............................. President.
Philo H. Landers.............................. Treasurer.

CATTARAUGUS.

RECEIPTS.

Balance as per last report		$220 97
From gate receipts	$1,128 20	
From rent of privileges	217 19	
From annual members	372 00	
From entries for races	430 81	
From State	529 46	
Receipts for 1896		2,677 66
Total receipts		$2,898 63

DISBURSEMENTS.

Due from last year		$14 70
For labor		465 67
For material and supplies		78 02
For salaries		80 00
For printing		132 65
For assessment, National Trotting Association		15 00
For payment on indebtedness		408 20
For race purses		825 00
For premiums on horses	$79 50	
For premiums on cattle	145 00	
For premiums on sheep	30 00	
For premiums on swine	23 00	

For premiums on poultry	$42 00		
For premiums on farm produce,	36 40		
For premiums on dairy products.	13 00		
For premiums on domestic	204 65		
For premiums on flowers	7 00		
For premiums on fruits	24 00		
For premiums on miscellaneous.	50		
Total premiums		$605 05	
Total disbursements			$2,624 29
Balance (credit)			$274 34

C. R. Rhoades	President.
M. N. Pratt	Treasurer.

CHEMUNG.

RECEIPTS.

Balance as per last report		$211 29
From gate receipts	$2,165 87	
From rent of grounds	17 25	
From rent of privileges	398 00	
From annual members	281 00	
From grand stand	287 00	
From entries for races	216 25	
From State	715 98	
From loan	1,050 00	
From miscellaneous	89 80	
Receipts for 1896		5,221 15
Total receipts		$5,432 44

DISBURSEMENTS.

For labor	$508 07
For salaries	100 00
For printing, advertising and attractions	837 75

For miscellaneous		$996 59	
For payment on indebtedness		600 00	
For race purses		896 50	
For premiums on horses	$328 00		
For premiums on cattle	113 00		
For premiums on sheep	86 00		
For premiums on swine	79 00		
For premiums on poultry	257 25		
For premiums on farm produce.	90 25		
For premiums on dairy products.	10 00		
For premiums on domestic	282 00		
For premiums on flowers	162 50		
For premiums on fruits	34 00		
Total premiums		1,442 00	
Total disbursements			$5,380 91
Balance (credit)			$51 53

Frank J. Cassada	President.
E. J. Young	Treasurer.

CHENANGO.

RECEIPTS.

Balance as per last report		$4 86
From gate receipts	$2,445 70	
From rent of grounds	77 01	
From rent of privileges	457 28	
From fair book	326 00	
From rent of privileges	102 35	
From entries for races	375 00	
From State	652 62	
Receipts for 1896		4,435 96
Total receipts		$4,440 82

DISBURSEMENTS.

For attractions		$505 25	
For labor		308 03	
For material		108 61	
For salaries (secretary)		50 00	
For police, $38.50; advertising, $636.37		674 87	
For incidentals		478 70	
For payment on indebtedness		349 72	
For race purses		873 80	
For premiums on horses	$121 00		
For premiums on cattle	194 50		
For premiums on sheep	21 15		
For premiums on swine	41 00		
For premiums on poultry	166 20		
For premiums on farm produce.	60 65		
For premiums on dairy products.	9 80		
For premiums on domestic	82 00		
For premiums on implements and machines	5 50		
For premiums on flowers	34 15		
For premiums on fruits	17 40		
For premiums on miscellaneous,	85 20		
Total premiums		838 55	
Total disbursements			$4,187 53
Balance (credit)			$253 29

S. A. Jones.......... President.
George A. Munson.......... Treasurer.

CLINTON.

RECEIPTS.

Balance as per last report		$3,713 17
From gate receipts	$6,200 25	
From rent of grounds	50 00	

From rent of privileges		$903 95	
From annual members		122 00	
From life members		10 00	
From entries for races		3,896 15	
From State		845 60	
From advertising		200 00	
From other sources		268 30	
Receipts for 1896			$12,496 25
Total receipts			$16,209 42

DISBURSEMENTS.

For permanent improvements		$2,977 64	
For labor		1,437 35	
For material		996 16	
For salaries		550 00	
For dividend		1,133 40	
For race purses		5,000 00	
For premiums on horses	$260 00		
For premiums on cattle	616 00		
For premiums on sheep	262 00		
For premiums on swine	253 00		
For premiums on poultry	61 50		
For premiums on farm produce,	83 00		
For premiums on dairy products,	24 00		
For premiums on domestic	231 50		
For premiums on implements and machines	52 00		
For premiums on flowers	75 50		
For premiums on fruits	25 00		
For premiums on miscellaneous,	189 25		
Total premiums		2,132 75	
Total disbursements			14,227 30
Balance (credit)			$1,982 12

D. F. Dobie.. President.
M. F. Parkhurst.................................. Treasurer.

COLUMBIA.

RECEIPTS.

Balance as per last report		$864 63
From gate receipts	$4,959 05	
From rent of grounds	20 00	
From rent of privileges	1,053 15	
From annual members	414 00	
From entries for races	1,396 60	
From State	706 73	
From note	1,000 00	
From refund N. Y. C. R. R., $86; interest, $2	88 00	
Receipts for 1896		9,637 53
Total receipts		$10,502 16

DISBURSEMENTS.

For permanent improvements		$2,664 66
For labor		1,193 29
For material		882 42
For salaries		100 00
For deposit N. Y. C. R. R		86 00
For insurance, etc		187 09
For payment on indebtedness		999 40
For race purses		2,470 00
For premiums on horses	$154 00	
For premiums on cattle	230 00	
For premiums on sheep	187 00	
For premiums on swine	64 00	
For premiums on poultry	244 75	
For premiums on farm produce.	93 00	
For premiums on dairy products.	23 50	
For premiums on domestic	271 75	
For premiums on implements and machines	15 00	

For premiums on fruits	$68 75		
For premiums on flowers	64 75		
For premiums on miscellaneous,	482 50		
Total premiums		$1,899 00	
Total disbursements			$10,481 86
Balance (credit)			$20 30

John P. Mickle	President.
A. J. Fellows	Treasurer.

CORTLAND.

RECEIPTS.

From gate receipts	$578 00	
From rent of grounds	129 59	
From rent of privileges	22 00	
From annual members	139 00	
From entries for races	255 00	
From State	577 90	
Receipts for 1896		$1,701 49
Total receipts		$1,701 49

DISBURSEMENTS.

Due from last year		$228 36
For permanent improvements		274 40
For labor		202 32
For material		120 84
For salaries		50 00
For salaries		200 00
For salaries		41 50
For race purses		550 00
For premiums on horses	$118 50	
For premiums on cattle	294 00	
For premiums on sheep	11 00	

For premiums on swine	$84 00		
For premiums on poultry	196 50		
For premiums on farm produce	32 25		
For premiums on dairy products	19 00		
For premiums on domestic	19 00		
For premiums on implements and machines	29 00		
For premiums on flowers	32 50		
For premiums on fruits	10 50		
For premiums on miscellaneous	241 25		
Total premiums		$1,087 50	
Total disbursements			$2,755 32
Balance (debit)			$1,053 83

J. J. Murray .... President.
R. G. Rowley .... Treasurer.

DELAWARE.

RECEIPTS.

From gate receipts	$978 59	
From rent of grounds	50 00	
From rent of privileges	201 00	
From annual members	190 25	
From State	709 19	
From loan	1,300 00	
From rent of buildings	25 00	
Receipts for 1896		$3,454 03
Total receipts		$3,454 03

DISBURSEMENTS.

For permanent improvements	$109 13
For labor	202 91

For material		$94 58	
For salaries		525 36	
For interest		132 50	
For postage, expressage, etc		32 41	
For payment on indebtedness		1,173 75	
For premiums on horses	$140 00		
For premiums on cattle	286 50		
For premiums on sheep	50 00		
For premiums on swine	40 00		
For premiums on poultry	109 75		
For premiums on farm produce.	41 35		
For premiums on dairy products.	15 00		
For premiums on domestic	378 05		
For premiums on implements and machines	23 00		
For premiums on flowers	4 00		
For premiums on fruits	26 50		
For premiums on miscellaneous.	52 45		
Total premiums		1,166 60	
Total disbursements			$3,437 24
Balance (credit)			$16 79

W. H. Fisher.................................... President.
R. P. McIntosh.................................. Treasurer.

DUTCHESS.

RECEIPTS.

Balance as per last report		$12 47
From gate receipts	$6,154 55	
From entries, premium department	990 66	
From rent of privileges	1,605 37	
From advertising	145 50	
From specials	131 67	

From entries for races	$445 00	
From State	997 11	
From amount borrowed	1,500 00	
From Chas. W. Swift, ex-treasurer	602 97	
Receipts for 1896		$12,572 83
Total receipts		$12,585 30

DISBURSEMENTS.

For labor		$1,532 05	
For amusements		685 00	
For salaries		350 00	
For printing and advertising		1,529 48	
For sundries		1,539 83	
For rent of grounds		1,000 00	
For race purses		1,275 00	
For premiums on horses	$1,630 00		
For premiums on cattle	1,413 00		
For premiums on sheep	311 00		
For premiums on swine	266 00		
For premiums on poultry	630 00		
For premiums on farm produce	38 25		
For premiums on dairy products	7 00		
For premiums on domestic	226 75		
For premiums on flowers	86 00		
For premiums on fruits	30 00		
Total premiums		4,638 00	
Total disbursements			12,549 36
Balance (credit)			$35 94

R. W. Rives	President.
Aug. B. Gray	Treasurer.

ERIE.

RECEIPTS.

From gate receipts	$3,654 75	
From rent of grounds	35 00	
From rent of privileges	641 46	
From annual members	356 00	
From borrowed money	350 00	
From entries for races	462 50	
From State	1,073 65	
From entries on special classes	188 20	
From grand stand	221 00	
Receipts for 1896		$6,982 56
Total receipts		$6,982 56

DISBURSEMENTS.

For permanent improvements		$506 08
For labor		600 85
For police		186 00
For salaries (treasurer, $50; secretary, $50)		100 00
For feed		265 35
For balloon, $150; music, $130		280 00
For sundries		403 47
For payment on indebtedness		723 86
For race purses		1,467 50
For premiums on horses	$434 00	
For premiums on cattle	287 00	
For premiums on sheep	65 00	
For premiums on swine	157 00	
For premiums on poultry	137 50	
For premiums on farm produce	107 80	
For premiums on dairy products	8 00	
For premiums on domestic	729 15	
For premiums on implements and machines	51 50	

For premiums on flowers	$72 50		
For premiums on fruits	63 00		
For premiums on miscellaneous	47 50		
Total premiums		$2,159 95	
Total disbursements			$6,684 06
Balance (credit)			$298 50

J. W. Carter.................................... President.
J. W. Salisbury.................................... Treasurer.

ESSEX.

RECEIPTS.

From gate receipts	$1,842 12	
From rent of grounds	370 50	
From entries for races	400 00	
From State	547 79	
From note	475 00	
Receipts for 1896		$3,635 41
Total receipts		$3,635 41

DISBURSEMENTS.

For permanent improvements		$910 00
For labor		272 32
For salaries		80 00
For entertainments, ball games, etc.		143 00
For printing and advertising		210 00
For band		100 00
For miscellaneous expenses		270 73
For race purses		1,060 00
For premiums on horses	$109 80	
For premiums on cattle	174 60	
For premiums on sheep	101 70	
For premiums on swine	24 20	

For premiums on poultry	$9 47		
For premiums on farm produce.	22 60		
For premiums on dairy products.	9 90		
For premiums on domestic	13 95		
For premiums on implements and machines	26 55		
For premiums on flowers	5 05		
For premiums on fruits	22 63		
For premiums on miscellaneous.	85 96		
Total premiums		$606 61	
Total disbursements			$3,652 84
Balance (debit)			$17 43

Warren A. Tucker............ President.
A. J. Daniels............ Treasurer.

FRANKLIN.

RECEIPTS.

Balance as per last report		$1,070 03
From gate receipts	$2,957 00	
From rent of grounds	1,021 45	
From rent of privileges (programme)	25 00	
From annual members	1,400 00	
From grand stand	1,115 00	
From entries for races	2,944 50	
From State	837 71	
From straw sold	2 00	
Receipts for 1896		10,302 66
Total receipts		$11,372 69

DISBURSEMENTS.

For permanent improvements	$620 00	
For labor	626 95	

For material		$299 41	
For salaries		325 00	
For advertising and printing		565 91	
For attractions other than races		1,008 17	
For miscellaneous		702 72	
For race purses		5,160 00	
For premiums on horses	$282 00		
For premiums on cattle	414 00		
For premiums on sheep	103 00		
For premiums on swine	125 00		
For premiums on poultry	40 50		
For premiums on farm produce	72 50		
For premiums on dairy products	60 00		
For premiums on domestic	328 50		
For premiums on implements and machines	95 00		
For premiums on flowers	50 00		
For premiums on fruits	46 00		
For premiums on miscellaneous	128 00		
Total premiums		1,743 50	
Total disbursements			$11,051 66
Balance (credit)			$321 03

Edward W. Lawrence .... President.
Thomas Adams .... Treasurer.

FULTON.

RECEIPTS.

Balance as per last report		$240 38
From gate receipts	$3,124 42	
From rent of grounds	292 63	
From rent of privileges	1,230 50	
From annual members	157 00	

From entries on articles	$412 90	
From entries for races	1,204 50	
From State	1,022 27	
From grand stand	698 50	
From fines—illegal entries	42 50	
Receipts for 1896		$8,185 22
Total receipts		$8,425 60

DISBURSEMENTS.

For permanent improvements		$466 40
For labor		925 27
For material		448 68
For salaries		200 00
For printing and advertising, $296.65; music, $106; insurance, $16.20		418 85
For hay, straw and grain, $168.07; water rent, $25; electric light, $30.42		223 49
For costs, law suit, $21.60; express, $1; stable rent, $1.50; telephone, $2.45		24 55
For boarding judges, $45.50; society dues, $10; committee to Albany, $10.07		65 57
For payment on indebtedness (interest)		70 20
For disbursements of secretary		262 75
For race purses		2,430 00
For premiums on horses	$240 00	
For premiums on cattle	553 00	
For premiums on sheep	159 00	
For premiums on swine	183 00	
For premiums on poultry	614 50	
For premiums on farm produce	248 25	
For premiums on dairy products	11 00	
For premiums on domestic	462 75	
For premiums on implements and machines	21 00	
For premiums on flowers	34 00	

For premiums on fruits	$26 50		
For premiums on miscellaneous	115 50		
Total premiums		$2,668 50	
Total disbursements			$8,204 26
Balance (credit)			$221 34

Oliver Getman	President.
William T. Briggs	Treasurer.

GENESEE.

RECEIPTS.

Balance as per last report		$0 75
From gate receipts	$2,714 05	
From rent of grounds	90 00	
From rent of privileges	342 00	
From annual members	440 00	
From life members	50 00	
From entries for races	433 75	
From State	756 34	
From advertisements in catalogue, and other sources	66 00	
From two notes at bank	400 00	
From uncalled-for premiums, 1895	6 25	
Receipts for 1896		5,298 39
Total receipts		$5,299 14

DISBURSEMENTS.

For permanent improvements	$413 37
For labor (clerks, police, judges, teams, etc.)	406 75
For material	129 88
For salaries of secretary and treasurer	100 00

For interest, insurance, attractions, band and miscellaneous		$1,247 57	
For payment on indebtedness		500 00	
For race purses		983 00	
For premiums on horses	$338 00		
For premiums on cattle	163 00		
For premiums on sheep	277 00		
For premiums on swine	118 00		
For premiums on poultry	110 65		
For premiums on farm produce.	77 00		
For premiums on dairy products.	28 00		
For premiums on domestic	131 50		
For premiums on implements and machines	26 00		
For premiums on flowers	64 50		
For premiums on fruits	69 75		
For premiums on miscellaneous.	64 00		
Total premiums		$1,467 40	
Total disbursements			$5,274 97
Balance (credit)			$24 17

C. P. Bell .... President.
C. D. Harris .... Treasurer.

GREENE.

RECEIPTS.

Balance as per last report		$746 14
From gate receipts	$1,490 75	
From rent of grounds	65 00	
From rent of privileges (on grounds)	446 40	
From annual members	28 00	
From life members	20 00	
From entries for races, cattle, etc	225 00	
From State	621 45	

From privileges in floral hall and other sources		$59 25	
From borrowed money		350 00	
Receipts for 1896			$3,305 85
Total receipts			$4,051 99

DISBURSEMENTS.

For permanent improvements, labor, material and salaries		$1,880 65	
For payment on indebtedness		545 63	
For race purses		778 75	
For premiums on horses	$102 00		
For premiums on cattle	337 40		
For premiums on sheep	42 00		
For premiums on swine	32 00		
For premiums on poultry	62 50		
For premiums on farm produce.	35 00		
For premiums on dairy products,	17 00		
For premiums on domestic	52 75		
For premiums on implements and machines	4 50		
For premiums on flowers	22 75		
For premiums on fruits	13 50		
For premiums on miscellaneous,	168 25		
Total premiums		$889 65	
Total disbursements			$4,094 68
Balance (debit)			$42 69

F. G. Walters	President.
C. E. Whitcomb	Treasurer.

HERKIMER.

RECEIPTS.

From gate receipts	$1,038 10
From rent of grounds	112 50

From rent of privileges		$208 00	
From annual members		900 00	
For entries for races		146 50	
From State		596 00	
From former treasurer		71 79	
Receipts for 1896			$3,073 84
Total receipts			$3,073 84

DISBURSEMENTS.

For permanent improvements		$155 84	
For labor		204 74	
For material		98 28	
For salaries		90 00	
For incidental expenses		281 22	
For payment on indebtedness		810 50	
For race purses		400 00	
For premiums on horses	$159 00		
For premiums on cattle	272 25		
For premiums on sheep	21 00		
For premiums on swine	39 00		
For premiums on poultry	12 75		
For premiums on farm produce	58 95		
For premiums on dairy products	34 35		
For premiums on domestic	217 65		
For premiums on flowers	11 50		
For premiums on fruits	15 60		
For premiums on miscellaneous	22 50		
Total premiums		$864 55	
Total disbursements			$2,905 13
Balance (credit)			$168 71

H. H. Green.................................... President.
P. S. Eysaman.................................. Treasurer.

JEFFERSON.

RECEIPTS.

From gate receipts....................	$4,122 00	
From rent of privileges................	966 50	
From annual members.................	984 00	
From grand stand......................	1,134 66	
From rent of barns....................	167 25	
From entries for races................	966 25	
From produce sold....................	35 00	
From State	1,031 54	
From sundry items....................	23 21	
Receipts for 1896..............................		$9,430 41
Total receipts		$9,430 41

DISBURSEMENTS.

Due from last year....................		$1,893 50
For permanent improvements..........		603 35
For labor		917 06
For miscellaneous		507 18
For rents, tent, etc....................		500 00
For salaries		483 72
For interest and insurance.............		157 50
For bills of 1895......................		5 00
For attractions		1,191 23
For advertising and printing...........		532 96
For race purses......................		1,725 00
For premiums on horses.......	$357 00	
For premiums on cattle........	609 00	
For premiums on sheep........	80 00	
For premiums on swine........	237 00	
For premiums on poultry......	188 50	
For premiums on farm produce.	207 50	
For premiums on dairy products.	74 00	
For premiums on domestic.....	301 00	
For premiums on flowers......	210 50	

For premiums on fruits	$85 50		
For premiums on miscellaneous	301 20		
Total premiums		$2,651 20	
Total disbursements			$11,167 73
Balance (debit)			$1,737 32

J. Sterling Sill	President.
F. M. Parker	Treasurer.

LEWIS.

RECEIPTS.

Balance as per last report		$218 01
From gate receipts	$2,396 85	
From rent of grounds	20 00	
From rent of privileges	404 00	
From annual members	650 00	
From entries for races	60 00	
From State	648 60	
From hay and old lumber	7 25	
From fines and donation	7 70	
Receipts for 1896		$4,194 40
Total receipts		$4,412 41

DISBURSEMENTS.

For permanent improvements		$416 58
For labor		302 42
For material		120 14
For salaries		275 00
For special attractions		478 92
For incidental expenses		407 35
For payment on indebtedness (interest)		412 16
For race purses		385 00
For premiums on horses	$242 50	
For premiums on cattle	397 50	

For premiums on sheep........	$11 00		
For premiums on swine.......	81 00		
For premiums on poultry......	57 50		
For premiums on farm produce.	62 50		
For premiums on dairy products.	37 00		
For premiums on domestic....	51 25		
For premiums on implements and machines	30 50		
For premiums on flowers......	55 00		
For premiums on fruits.......	31 50		
For premiums on miscellaneous,	139 50		
Total premiums		$1,196 75	
Total disbursements			$3,994 32
Balance (credit)			$418 09

R. H. White.................................. President.
Ira Sharp .... Treasurer.

LIVINGSTON.

RECEIPTS.

Balance on hand December 3, 1895.................		$104 27
From gate receipts and grand stand....	$306 35	
From rent of stables.................	105 50	
From rent of privileges................	37 00	
From annual members................	95 00	
From life members..................	10 00	
From entries for races.................	52 50	
From State.........................	512 26	
From donations, $115.04; entries, $55; hay sold, $6.05.......................	176 09	
From loan of W. A. Wadsworth........	77 74	
Receipts for 1896............................		1,372 44
Total receipts............................		$1,476 71

DISBURSEMENTS.

For labor		$107 28	
For material		67 79	
For printing		157 30	
For sundry expenses		37 81	
For race purses		220 00	
For premiums on horses	$404 00		
For premiums on cattle	168 00		
For premiums on sheep	88 00		
For premiums on swine	44 00		
For premiums on poultry	43 50		
For premiums on farm produce,	22 00		
For premiums on dairy products,	6 50		
For premiums on domestic	55 00		
For premiums on flowers	5 00		
For premiums on fruits	11 25		
For premiums on miscellaneous,	15 50		
Total premiums		862 75	
Total disbursements			$1,452 93
Balance (credit)			$23 78

W. A. Wadsworth .... President.
Kidder M. Scott .... Treasurer.

MADISON—BROOKFIELD AGRICULTURAL SOCIETY.

RECEIPTS.

Balance as per last report		$26 79
From gate receipts	$454 10	
From rent of grounds	17 75	
From rent of privileges	162 45	
From annual members	704 00	
From grand stand	131 00	
From entries for races	41 00	

From State	$618 20	
From interest	56 40	
From loan	325 00	
Receipts for 1896		$2,509 90
Total receipts		$2,536 69

DISBURSEMENTS.

For permanent improvements		$275 47	
For labor		256 67	
For material		7 88	
For salaries		60 00	
For premiums, 1895		1 45	
For printing and lithographing		109 53	
For music and incidentals		383 93	
For payment on indebtedness		314 01	
For race purses		167 35	
For premiums on horses	$203 00		
For premiums on cattle	223 00		
For premiums on sheep	45 00		
For premiums on swine	34 00		
For premiums on poultry	206 75		
For premiums on farm produce.	50 35		
For premiums on dairy products.	7 00		
For premiums on domestic	134 50		
For premiums on flowers	10 25		
For premiums on fruits	12 75		
For premiums on miscellaneous,	46 70		
Total premiums		973 30	
Total disbursements			2,549 59
Balance (debit)			$12 90

H. L. Spooner............................... President.
B. G. Skillman, Jr............................... Treasurer.

MONROE—WESTERN NEW YORK AGRICULTURAL SOCIETY.

RECEIPTS.

Balance as per last report			$198 34
From gate receipts		$3,696 45	
From rent of grounds		20 00	
From rent of privileges		464 00	
From annual members		263 00	
From entries for races		142 00	
From State		2,000 00	
From hay sold		79 21	
From note discounted		2,250 00	
Receipts for 1896			8,914 66
Total receipts			$9,113 00

DISBURSEMENTS.

For labor		$1,023 76	
For general expenses		3,501 15	
For advertising and printing		567 50	
For race purses		430 00	
For premiums on horses	$692 00		
For premiums on cattle	1,095 00		
For premiums on sheep	220 00		
For premiums on swine	146 00		
For premiums on poultry	392 50		
For premiums on farm produce	220 00		
For premiums on dairy products	22 50		
For premiums on domestic	541 00		
For premiums on flowers	258 00		
For premiums on fruits	155 50		
For premiums on miscellaneous	16 00		
Total premiums		3,758 50	
Total disbursements			$9,280 91
Balance (debit)			$167 91

Joseph H. Sherman	President.
Chauncey G. Starkweather	Treasurer.

MONTGOMERY.

RECEIPTS.

From gate receipts	$2,284 05	
From rent of grounds	10 40	
From rent of privileges	457 63	
From annual members	133 00	
From life members	15 00	
From entries for races	734 00	
From State	669 48	
From hay	91 18	
From advertising, etc	6 00	
Receipts for 1896		$4,400 74
Total receipts		$4,400 74

DISBURSEMENTS.

For labor		$850 36
For material		261 84
For salaries		216 94
For insurance		67 50
For miscellaneous		25 08
For payment on indebtedness		100 00
For race purses		1,492 73
For premiums on horses	$266 00	
For premiums on cattle	149 00	
For premiums on sheep	128 00	
For premiums on swine	67 58	
For premiums on poultry	109 50	
For premiums on farm produce	89 50	
For premiums on fine arts	69 60	
For premiums on domestic	149 50	
For premiums on implements and machines	5 00	

For premiums on miscellaneous.	$107 45		
Total premiums		$1,141 13	
Total disbursements			$4,155 58
Balance (credit)			$245 16

Jacob D. Snow	President.
William Wiles	Treasurer.

NEW YORK — AMERICAN INSTITUTE.

RECEIPTS.

From rent of grounds, buildings, etc.	$8,727 36	
From rent of privileges, spaces, and for premiums	19,287 27	
From annual members and invitations	270 00	
From State	500 15	
From interest, U. S. bonds, unclaimed balances, and on deposits	1,115 37	
Receipts for 1896		$29,900 15
Total receipts		$29,900 15

DISBURSEMENTS.

For permanent improvements, labor and material		$405 50
For salaries		1,523 33
For payments by trustees, account of sixty-fifth fair		21,100 02
For payment on indebtedness (general maintenance)		3,817 68
For premiums on farm produce.	$622 00	
For premiums on implements and machines	20 00	
For premiums on flowers	1,296 00	

For premiums on fruits	$342 00		
Total premiums		$2,280 00	
Total disbursements			$29,126 53
Balance (credit)			$773 62

J. Trumbull Smith	President.
Wm. Dean	Treasurer.

NIAGARA.

RECEIPTS.

Balance as per last report		$36 33
From gate receipts	$1,681 79	
From rent of grounds	235 00	
From rent of privileges	206 00	
From entries for races	72 75	
From State	673 65	
From notes	1,149 46	
From interest on balances in bank	1 14	
Receipts for 1896		4,019 79
Total receipts		$4,056 12

DISBURSEMENTS.

For permanent improvements	$117 33
For labor	430 99
For material	105 20
For salaries	406 00
For printing and advertising, insurance and taxes, State association, and divers expenses	791 74
For payment on indebtedness	507 00
For interest on indebtedness	275 00
For race purses	272 50

For premiums on horses	$132 00		
For premiums on cattle	192 00		
For premiums on sheep	104 00		
For premiums on swine	42 00		
For premiums on poultry	38 00		
For premiums on farm produce.	79 35		
For premiums on dairy products.	12 00		
For premiums on domestic	155 75		
For premiums on implements and machines	19 00		
For premiums on flowers	53 50		
For premiums on fruits	56 50		
For premiums on miscellaneous.	92 00		
Total premiums		$976 10	
Total disbursements			$4,023 61
Balance (credit)			$32 51

C. A. Warren .... President.
B. F. Gaskill .... Treasurer.

ONEIDA.

RECEIPTS.

From gate receipts	$2,470 00	
From rent of grounds	500 00	
From rent of privileges	479 40	
From annual members	389 00	
From life members	40 00	
From entries for races	597 50	
From State	916 13	
From hay and straw sold	21 50	
From loan	600 00	
Receipts for 1896		$6,013 53
Total receipts		$6,013 53

DISBURSEMENTS.

For permanent improvements		$133 50	
For labor		1,071 77	
For material		519 83	
For salaries		100 00	
For miscellaneous		46 58	
For insurance		109 00	
For payment on indebtedness		826 20	
For race purses		1,322 75	
For premiums on horses	$255 00		
For premiums on cattle	744 00		
For premiums on sheep	111 00		
For premiums on swine	122 00		
For premiums on poultry	259 00		
For premiums on farm produce.	94 00		
For premiums on dairy products.	18 00		
For premiums on domestic	334 50		
For premiums on flowers	27 00		
For premiums on fruits	71 00		
Total premiums		2,035 50	
Total disbursements			$6,165 13
Balance (debit)			$151 60

James A. Bailey .... President.
W. D. Reese .... Treasurer.

ONONDAGA—ONONDAGA COUNTY FAIR.

RECEIPTS.

From capital stock sold	$30,000 00
From gate receipts	5,616 68
From rent of grounds	250 00
From rent of privileges	889 00
From entries for races	807 50
From entries of exhibits	288 00

From season tickets		$103 50	
From borrowed money, bills payable		5,000 00	
Receipts for 1896			$42,954 68
Total receipts			$42,954 68

DISBURSEMENTS.

For permanent improvements, labor and material (cost of plant to date		$31,829 65	
For salaries (secretary, $200; treasurer, $200)		400 00	
For all other expenses, including rent, insurance, etc.		6,775 19	
For Indian foot races		76 00	
For race purses		1,675 00	
For premiums on horses	$587 00		
For premiums on cattle	217 00		
For premiums on sheep	50 00		
For premiums on swine	243 00		
For premiums on poultry	238 75		
For premiums on farm produce.	207 25		
For premiums on dairy products.	42 50		
For premiums on domestic	208 30		
For premiums on flowers	67 00		
For premiums on fruits	252 75		
Total premiums		2,113 55	
Total disbursements			42,869 39
Balance (credit)			$85 29

H. N. Burhans.......... President.
Frank J. Webb.......... Treasurer.

ONTARIO.

RECEIPTS.

Balance on hand as per last report		$7 48
From gate receipts	$1,542 04	

From rent of grounds	$130 00	
From rent of privileges	162 50	
From annual members	242 00	
From entries for races	74 25	
From State	879 03	
From loans, account bills payable	522 00	
Receipts for 1896		$3,551 82
Total receipts		$3,559 30

DISBURSEMENTS.

For new furniture		$6 72	
For labor and material for repairs		204 36	
For expenses of delegates to Albany		26 64	
For salaries		220 00	
For insurance		78 37	
For annual dues, S. A. C. A. S.		10 00	
For expenses of fairs		962 73	
For payment on indebtedness		812 07	
For race purses		311 25	
For premiums on horses	$202 50		
For premiums on cattle	65 50		
For premiums on sheep	175 00		
For premiums on swine	143 50		
For premiums on poultry	101 38		
For premiums on farm produce.	73 37		
For premiums on domestic	95 80		
For premiums on implements and machines	24 58		
For premiums on flowers	13 31		
For premiums on fruits	30 30		
Total premiums		925 24	
Total disbursements			3,557 38
Balance (credit)			$1 92

John B. Hall	President.
Jas. S. Hickox	Treasurer.

ORANGE.

RECEIPTS.

Balance as per last report		$925 16
From gate receipts	$3,909 25	
From rent of privileges	907 00	
From special premiums	162 50	
From membership and entry fees	1,769 80	
From State	1,591 94	
From bills payable and interest	2,572 50	
From miscellaneous	9 00	
Receipts for 1896		10,921 99
Total receipts		$11,847 15

DISBURSEMENTS.

Due from last year		$86 45
For labor, pay-roll and police		829 40
For printing		752 55
For salaries		125 00
For hay, bedding, tents, roofing and benching		1,357 62
For music, judges, postage and other expenses		1,327 22
For bills payable and interest		2,405 78
For premiums on horses	$400 00	
For premiums on cattle	781 00	
For premiums on sheep	15 00	
For premiums on swine	91 00	
For premiums on poultry	1,633 00	
For premiums on farm produce.	400 75	
For premiums on dairy products.	6 00	
For premiums on domestic	378 00	

For premiums on implements and machines	$128 50		
For premiums on flowers	123 50		
For premiums on fruits	339 25		
For premiums on miscellaneous.	658 75		
Total premiums		$4,954 75	
Total disbursements			$11,838 77
Balance (credit)			$8 38

Augustus Denniston .... President.
H. M. Waring .... Treasurer.

ORLEANS.

RECEIPTS.

Balance as per last report		$625 23
From gate receipts	$661 30	
From rent of grounds	10 75	
From rent of privileges	375 75	
From annual members	1,436 00	
From life members	10 00	
From interest on mortgage and shingles sold	51 28	
From State	704 20	
From pasturing stock	59 63	
From oats, hay and corn fodder	75 35	
Receipts for 1896		3,384 26
Total receipts		$4,009 49

DISBURSEMENTS.

For permanent improvements		$130 00
For labor		1,055 31
For material		346 03
For salaries		80 00
For printing		215 94
For premiums on horses	$596 00	
For premiums on cattle	226 00	

For premiums on sheep	$269 00		
For premiums on swine	128 00		
For premiums on poultry	177 75		
For premiums on farm produce	100 00		
For premiums on domestic	117 50		
For premiums on flowers	55 50		
For premiums on fruits	74 00		
For premiums on miscellaneous	45 50		
Total premiums		$1,789 25	
Total disbursements			$3,616 53
Balance (credit)			$392 96

Elbert A. Rowley	President.
Augustus W. Barnett	Treasurer.

OSWEGO.

RECEIPTS.

From gate receipts (small gate)	$2,254 00	
From rent of privileges	500 00	
From annual members	2,115 00	
From life members	50 00	
From entries for races	427 50	
From State	596 45	
From grand stand	281 60	
Receipts for 1896		$6,224 55
Total receipts		$6,224 55

DISBURSEMENTS.

For attractions	$250 00
For labor	876 83
For material	418 09
For salaries	65 00
For printing and fair bills	348 31
For miscellaneous	533 28

For race purses		$935 00	
For premiums on horses	$266 00		
For premiums on cattle	400 00		
For premiums on sheep	90 00		
For premiums on swine	116 00		
For premiums on poultry	247 10		
For premiums on farm produce.	136 75		
For premiums on dairy products.	25 00		
For premiums on domestic	148 75		
For premiums on flowers	46 00		
For premiums on fruits	35 25		
For miscellaneous	241 60		
Total premiums		1,752 45	
Total disbursements			$5,178 96
Balance (credit)			$1,045 59

H. H. Merriam .... President.
Jay C. Harrington .... Treasurer.

OTSEGO.

RECEIPTS.

From gate receipts	$1,599 29	
From rent of grounds	36 50	
From rent of privileges	487 75	
From annual members	387 00	
From life members	20 00	
From entries for races	240 50	
From State	801 74	
From grand stand	108 95	
From dinner tickets and horse tickets (E. S. Clark)	6 50	
Receipts for 1896		$3,688 23
Total receipts		$3,688 23

DISBURSEMENTS.

For permanent improvements		$453 57	
For labor		471 58	
For material		325 84	
For music, $165; acrobats, $10; two bank notes, $283.66		458 66	
For expense of meetings, taxes and incidentals		58 91	
For race purses		578 75	
For premiums on horses	$124 00		
For premiums on cattle	695 10		
For premiums on sheep	214 75		
For premiums on swine	20 00		
For premiums on poultry	130 40		
For premiums on farm produce,	52 60		
For premiums on dairy products,	16 00		
For premiums on domestic	294 35		
For premiums on implements and machines	55 50		
For premiums on flowers	17 50		
For premiums on fruits	27 00		
For premiums on miscellaneous,	73 00		
Total premiums		1,720 20	
Total disbursements			$4,067 51
Balance (debit)			$379 28

A. W. Thayer .... President.
L. E. Walrath .... Treasurer.

PUTNAM.

RECEIPTS.

Balance as per last report		$726 29
From gate receipts	$2,003 44	
From rent of grounds	50 00	
From rent of privileges	447 50	

From entries for races		$1,100 00	
From State		509 54	
Receipts for 1896			$4,111 48
Total receipts			$4,837 77

DISBURSEMENTS.

Due from last year		$85 50	
For permanent improvements		300 00	
For labor		445 00	
For material		52 40	
For salaries		100 00	
For interest on $1,500		90 00	
For insurance		40 00	
For bands, etc		195 50	
For bicycle races		134 50	
For advertising		345 00	
For payment on indebtedness		500 00	
For race purses		1,725 00	
For premiums on horses	$122 50		
For premiums on cattle	72 50		
For premiums on poultry	52 50		
For premiums on farm produce	45 00		
For premiums on dairy products	10 00		
For premiums on domestic	247 00		
Total premiums		549 50	
Total disbursements			4,562 40
Balance (credit)			$275 37

Philip Diehl	President.
E. C. Weeks	Treasurer.

QUEENS.

RECEIPTS.

Balance as per last report		$5,461 11
From gate receipts	$16,185 85	

From rent of carriage sheds		$334 00	
From rent of privileges		3,377 50	
From annual members		2,342 00	
From annual carriage tickets		568 00	
From life members		200 00	
From entries for races		3,882 63	
From entries for dog show		684 00	
From State		1,705 76	
From miscellaneous receipts		127 00	
From borrowed		1,000 00	
Receipts for 1896			$30,406 74
Total receipts			$35,867 85

DISBURSEMENTS.

For permanent improvements		$618 11	
For labor		4,227 90	
For printing		945 00	
For salaries		1,950 00	
For insurance		519 26	
For interest		1,096 33	
For advertising		785 40	
For incidental expenses		3,235 92	
For debts of 1895		136 75	
For payment on indebtedness		8,500 00	
For race purses		6,084 50	
For premiums on horses	$185 00		
For premiums on cattle	800 00		
For premiums on sheep	129 00		
For premiums on swine	299 00		
For premiums on poultry	736 00		
For premiums on farm produce	513 00		
For premiums on dogs	918 00		
For premiums on domestic	447 00		
For premiums on implements and machines	155 00		
For premiums on flowers	883 00		

For premiums on fruits	$433 00		
For premiums on miscellaneous,	708 00		
Total premiums		$6,206 00	
Total disbursements			$34,305 17
Balance (credit)			$1,562 68

Thomas Mott .... President.

Thomas H. Bacon .... Treasurer.

RENSSELAER—AGRICULTURAL AND LIBERAL ARTS SOCIETY OF RENSSELAER COUNTY.

RECEIPTS.

From gate receipts	$3,492 00	
From rent of privileges	469 30	
From annual members	131 00	
From entries for races	1,056 00	
From State	709 12	
From miscellaneous	110 90	
From notes	1,500 00	
Receipts for 1896		$7,468 32
Total receipts		$7,468 32

DISBURSEMENTS.

For permanent improvements		$493 42
For labor		1,404 26
For material, hay, feed, etc		271 35
For salaries		125 00
For printing and advertising		638 85
For rent of grounds, interest and insurance		502 77
For payment on indebtedness		300 00
For race purses		2,138 50
For premiums on horses	$258 00	
For premiums on cattle	116 75	

For premiums on sheep	$84 00		
For premiums on swine	92 00		
For premiums on poultry	256 00		
For premiums on farm produce	110 00		
For premiums on domestic	249 50		
For premiums on implements and machines	2 75		
For premiums on flowers	116 25		
For premiums on fruits	60 25		
For premiums on miscellaneous	298 75		
Total premiums		$1,644 25	
Total disbursements			$7,518 40
Balance (debit)			$50 08

Gardner Morey .... President.
Charles E. Huested.. Treasurer.

ROCKLAND.

RECEIPTS.

Balance as per last report		$579 09
From gate receipts	$443 50	
From rent of privileges	104 25	
From annual members	407 00	
From advertising in premium list	104 75	
From State	527 41	
Receipts for 1896		1,586 91
Total receipts		$2,166 00

DISBURSEMENTS.

For rent of grounds	$100 00
For labor and police	239 50
For material and expenses	127 50
For salaries	100 00

For tent hire		$85 00	
For music		70 00	
For printing and premium list		163 50	
For race premiums for speed, county horses only		225 00	
For premiums on horses	$106 00		
For premiums on cattle	83 50		
For premiums on sheep	15 00		
For premiums on swine	19 50		
For premiums on poultry	45 00		
For premiums on farm produce	53 75		
For premiums on dairy products	50		
For premiums on domestic	96 25		
For premiums on flowers	34 50		
For premiums on fruits	72 50		
For premiums on miscellaneous	7 25		
Total premiums		533 75	
Total disbursements			$1,644 25
Balance (credit)			$521 75

John J. Hogan	President.
Alvin Graff	Treasurer.

ST. LAWRENCE.

RECEIPTS.

From gate receipts and grand stand	$3,623 24	
From rent of grounds and privileges	886 50	
From annual members	63 00	
From life members	20 00	
From entries for races	3,755 00	
From State	792 95	
From poultry exhibit	4 10	
Receipts for 1896		$9,144 79
Total receipts		$9,144 79

DISBURSEMENTS.

Due from last year		$513 01	
Fer permanent improvements		547 86	
For labor		1,034 12	
For material		413 29	
For salaries		220 00	
For printing and advertising		655 50	
For sundries		446 15	
For payment on indebtedness (interest)		222 00	
For race purses		5,024 00	
For premiums on horses	$248 00		
For premiums on cattle	627 00		
For premiums on sheep	121 00		
For premiums on swine	55 00		
For premiums on poultry	58 50		
For premiums on farm produce.	77 50		
For premiums on dairy products,	140 00		
For premiums on domestic	160 50		
For premiums on implements and machines	68 00		
For premiums on flowers	26 50		
For premiums on fruits	19 50		
For premiums on miscellaneous.	106 50		
Total premiums		$1,708 00	
Total disbursements			$10,783 93
Balance (debit)			$1,639 14

A. T. Martyn .... President.
Chas. J. Perkins .... Treasurer.

SARATOGA.

RECEIPTS.

From gate receipts	$2,300 51
From S. W. Rowley, ex-treasurer	1,738 25
From rent of privileges	647 23
From annual members	1,001 00

From grand stand	$605 60	
From entries for races	412 50	
From State	744 92	
From directors' note	1,500 00	
From donations	275 00	
Receipts for 1896		$9,225 01
Total receipts		$9,225 01

DISBURSEMENTS.

For permanent improvements		$3,776 91	
For labor, clerks and police		563 45	
For material and supplies		448 00	
For salaries		225 00	
For education, speaking, judges, etc		129 95	
For printing and advertising		225 20	
For payment on indebtedness		502 50	
For insurance		87 65	
For race purses		982 00	
For miscellaneous		427 50	
For premiums on horses	$114 00		
For premiums on cattle	468 50		
For premiums on sheep	136 00		
For premiums on swine	106 00		
For premiums on poultry	141 75		
For premiums on farm produce	129 50		
For premiums on dairy products	17 00		
For premiums on domestic	195 70		
For premiums on implements and machines	93 50		
For premiums on flowers	72 75		
For premiums on fruits	54 00		
For premiums on miscellaneous	238 35		
Total premiums		1,767 05	
Total disbursements			9,135 05
Balance (credit)			$89 80

Geo. C. Valentine	President.
Walter I. Cavert	Treasurer.

SCHOHARIE.

RECEIPTS.

Balance as per last report		$4 52
From gate receipts	$2,065 15	
From rent of grounds	38 06	
From rent of privileges	455 00	
From annual members	204 00	
From note	149 25	
From entries for races	616 00	
From keeping horses	48 25	
From State	750 70	
From advertising in fair book	136 00	
From penalties	81 90	
Receipts for 1896		4,544 31
Total receipts		$4,548 83

DISBURSEMENTS.

For permanent improvements		$50 00
For labor		477 99
For material		403 66
For salaries		50 00
For special attractions		75 00
For insurance		56 00
For National Trotting Association		16 50
For payment on indebtedness		515 24
For race purses		1,380 00
For premiums on horses	$239 00	
For premiums on cattle	346 00	
For premiums on sheep	178 00	
For premiums on swine	80 00	
For premiums on poultry	82 50	
For premiums on farm produce	119 50	
For premiums on dairy products	14 50	

For premiums on domestic	$357 00		
For premiums on implements and machines	6 00		
For premiums on flowers	16 00		
For premiums on fruits	43 00		
For premiums on miscellaneous	32 00		
Total premiums		$1,513 50	
Total disbursements			$4,537 89
Balance (credit)			$10 94

Daniel W. Jenkins .... President.
James B. Becker .... Treasurer.

SCHUYLER.

RECEIPTS.

From gate receipts	$678 80	
From rent of grounds	100 00	
From rent of privileges	56 25	
From annual members	244 00	
From entries for races	211 75	
From State	547 80	
From grand stand	49 70	
From advertising in premium list	74 50	
Receipts for 1896		$1,962 80
Total receipts		$1,962 80

DISBURSEMENTS.

For permanent improvements		$98 42
For labor		259 29
For material		136 36
For salaries (treasurer, $25; secretary, $25)		50 00
For rent of grounds, six months		125 00
For printing, miscellaneous expenses, etc.		101 57
For race purses		565 00
For premiums on horses	$115 00	

For premiums on cattle	$132 50		
For premiums on sheep	118 00		
For premiums on swine	46 00		
For premiums on poultry	66 00		
For premiums on farm produce	33 25		
For premiums on dairy products	4 50		
For premiums on domestic	107 75		
For premiums on flowers	49 75		
For premiums on fruits	32 25		
Total premiums		$705 00	
Total disbursements			$2,040 64
Balance (debit)			$77 84

A. L. Hunter.. President.
Geo. C. Wait.. Treasurer.

SENECA.

RECEIPTS.

Balance as per last report (error)		$440 83
From gate receipts	$782 63	
From rent of grounds	89 35	
From rent of privileges	103 00	
From annual members	599 00	
From entries for races	117 00	
From State	643 15	
Receipts for 1896		2,264 13
Total receipts		$2,704 96

DISBURSEMENTS.

For permanent improvements	$45 27
For labor and expenses	491 71
For material	228 15
For dues, State Association Agricultural Societies	10 00

For premiums of 1895		$4 00	
For payment on indebtedness		148 62	
For race purses		350 00	
For premiums on horses	$233 00		
For premiums on cattle	249 00		
For premiums on sheep	92 00		
For premiums on swine	129 00		
For premiums on poultry	126 75		
For premiums on farm produce.	54 15		
For premiums on dairy products.	11 00		
For premiums on domestic	118 60		
For premiums on flowers	37 00		
For premiums on fruits	33 50		
For premiums on miscellaneous,	29 25		
Total premiums		1,113 25	
Total disbursements			$2,391 00
Balance (credit)			$313 96

Isaac L. Huff .... President.
Leonard Story .... Treasurer.

STEUBEN.

RECEIPTS.

From gate receipts	$3,715 15	
From rent of grounds	36 00	
From rent of privileges	776 22	
From annual members	600 00	
From overdraft at bank	237 88	
From entries for races	660 00	
From State	979 60	
From avails of notes	1,800 00	
From miscellaneous	189 62	
Receipts for 1896		8,994 47
Total receipts		$8,994 47

DISBURSEMENTS.

Due as per last report		$4 71	
For permanent improvements		751 75	
For labor		417 34	
For material		329 28	
For salaries (secretary, $300; general superintendent, $120; treasurer, $50; clerks, $204.25; superintendents, $63; assistants, $115; gate keepers, $54; executive clerk, $10)		943 25	
For miscellaneous		1,800 50	
For payment on indebtedness and interest		654 97	
For race purses		1,560 00	
For premiums on horses	$345 00		
For premiums on cattle	510 30		
For premiums on sheep	298 80		
For premiums on swine	274 00		
For premiums on poultry	133 82		
For premiums on farm produce.	199 75		
For premiums on dairy products.	31 00		
For premiums on domestic	178 00		
For premiums on art	120 00		
For premiums on flowers	47 50		
For premiums on fruits	161 00		
For premiums on miscellaneous,	233 50		
Total premiums		2,532 67	
Total disbursements			$8,994 47

Harvey Connor.................................... President.
E. Clarence Bennett.................................... Treasurer.

STEUBEN — HORNELLSVILLE FARMERS' CLUB.

RECEIPTS.

Balance as per last report		$67 74
From gate receipts	$6,629 05	
From rent of grounds (National Trotting Association)	92 50	

From rent of privileges	$1,093 00	
From annual members	975 25	
From sale of hay and straw	92 80	
From entries for races	1,727 00	
From State	2,000 00	
From entries for live stock	435 30	
From advertising in premium list	116 40	
Receipts for 1896		$13,161 30
Total receipts		$13,226 04

DISBURSEMENTS.

For attractions		$802 00	
For labor		831 90	
For material		271 87	
For salaries		664 26	
For hay and straw		254 67	
For miscellaneous expenses		2,818 89	
For payment on indebtedness (1893 and 1895)		97 85	
For race purses		3,130 00	
For premiums on horses	$286 00		
For premiums on cattle	936 60		
For premiums on sheep	643 00		
For premiums on swine	275 00		
For premiums on poultry	214 40		
For premiums on farm produce,	241 40		
For premiums on dairy products.	69 50		
For premiums on domestic	486 95		
For premiums on flowers	196 75		
For premiums on fruits	108 00		
Total premiums		3,457 60	
Total disbursements			12,329 04
Balance (credit)			$897 00

L. A. Waldo	President.
Charles Adsit	Treasurer.

SUFFOLK.

RECEIPTS.

From gate receipts		$3,746 75	
From rent of privileges		523 50	
From entries for races		830 00	
From State		915 76	
Receipts for 1896			$6,016 01
Total receipts			$6,016 01

DISBURSEMENTS.

Due from last year		$508 28	
For labor		725 00	
For material		485 52	
For salaries		200 00	
For sundries		1,186 99	
For race purses		1,737 50	
For premiums on horses	$261 00		
For premiums on cattle	344 00		
For premiums on sheep	68 00		
For premiums on swine	105 00		
For premiums on poultry	333 50		
For premiums on farm produce.	200 25		
For premiums on domestic	259 25		
For premiums on implements and machines	15 00		
For premiums on flowers	90 75		
For premiums on fruits	72 75		
For premiums on miscellaneous.	75 00		
Total premiums		1,824 50	
Total disbursements			6,667 79
Balance (debit)			$651 78

John S. Havens.................................. President.
George W. Cooper.................................. Treasurer.

SULLIVAN.

RECEIPTS.

Balance as per last report		$1,380 03
From gate receipts	$1,334 69	
From rent of privileges	384 70	
From annual members	133 00	
From entries for races	35 00	
From State	756 82	
Receipts for 1896		2,644 21
Total receipts		$4,024 24

DISBURSEMENTS.

For permanent improvements		$294 68	
For labor		961 81	
For material		134 46	
For salaries		70 00	
For payment on indebtedness		90 08	
For race purses		324 00	
For premiums on horses	$212 00		
For premiums on cattle	359 75		
For premiums on sheep	35 00		
For premiums on swine	82 00		
For premiums on poultry	252 60		
For premiums on farm produce	131 70		
For premiums on dairy products	43 00		
For premiums on domestic	93 65		
For premiums on implements and machines	2 00		
For premiums on flowers	34 00		
For premiums on fruits	25 00		
For premiums on miscellaneous	7 85		
Total premiums		1,278 55	
Total disbursements			3,153 58
Balance (credit)			$870 66

P. R. Pelton	President.
S. L. Strong	Treasurer.

TIOGA.

RECEIPTS.

From gate receipts	$924 05	
From rent of privileges	156 25	
From annual members	440 00	
From entries for races	118 50	
From State	598 67	
Receipts for 1896		$2,237 47
Total receipts		$2,237 47

DISBURSEMENTS.

Due from last year		$172 86
For permanent improvements		51 67
For labor		81 88
For material		39 23
For salaries		78 16
For advertising and postage		302 31
For rent		200 00
For payment on indebtedness		148 05
For race purses		475 00
For premiums on horses	$135 00	
For premiums on cattle	170 50	
For premiums on sheep	72 60	
For premiums on swine	45 00	
For premiums on poultry	53 00	
For premiums on farm produce	82 40	
For premiums on dairy products	15 75	
For premiums on domestic	148 25	
For premiums on implements and machines	3 00	
For premiums on flowers	9 80	

For premiums on fruits	$13 70		
For premiums on miscellaneous,	55 35		
Total premiums		$804 35	
Total disbursements			$2,353 51
Balance (debit)			$116 04

H. M. Tilbury	President.
James M. Hastings	Treasurer.

TOMPKINS.

RECEIPTS.

Balance as per last report		$943 24
From gate receipts (single tickets)	$687 75	
From grand stand	347 50	
From rent of grounds and hay	136 75	
From rent of privileges	427 29	
From annual members (2,312)	2,312 00	
From members (64 at $5 each)	320 00	
From entries for races	317 50	
From State	920 59	
Collected for 1895	30 00	
From miscellaneous	40 19	
From insurance	500 00	
From advertising and signs	240 50	
Receipts for 1896		6,280 07
Total receipts		$7,223 31

DISBURSEMENTS.

For permanent improvements	$738 00
For labor	719 53
For material	118 30
For salaries	100 00
For printing and advertising	603 85
For bicycle club	118 50

Due from 1895		$18 00	
For tents, music, insurance and miscellaneous		711 75	
For payment on indebtedness and interest on mortgage		722 00	
For race purses		836 25	
For premiums on horses	$261 75		
For premiums on cattle	402 25		
For premiums on sheep	214 00		
For premiums on swine	266 75		
For premiums on poultry	124 75		
For premiums on farm produce.	48 25		
For premiums on dairy products.	30 75		
For premiums on domestic	188 25		
For premiums on implements and machines	28 25		
For premiums on flowers	41 00		
For premiums on fruits	75 25		
For premiums on miscellaneous.	133 25		
Total premiums		1,814 50	
Total disbursements			$6,500 68
Balance (credit)			$722 63

C. E. Seaman .... President.

A. J. Howland .... Treasurer.

ULSTER.

RECEIPTS.

From gate receipts	$917 83	
From rent of privileges	152 00	
From annual members	155 00	
From State	708 05	
Receipts for 1896		$1,932 88
Total receipts		$1,932 88

DISBURSEMENTS.

For rent of grounds		$175 00	
For labor		132 73	
For material		104 69	
For salaries		100 00	
For interest		17 00	
For insurance		26 25	
For miscellaneous		346 84	
For advertising and printing		163 84	
For premiums on horses	$143 00		
For premiums on cattle	262 00		
For premiums on sheep	6 00		
For premiums on swine	22 00		
For premiums on poultry	154 08		
For premiums on farm produce	110 95		
For premiums on dairy products	18 50		
For premiums on domestic	110 00		
For premiums on implements and machines	30 00		
For premiums on flowers	23 25		
For premiums on fruits	25 22		
For premiums on miscellaneous	102 25		
Total premiums		1,007 25	
Total disbursements			$2,072 90
Balance (debit)			$140 02

Louis R. Benedict	President.
Clark Eaton	Treasurer

WASHINGTON.

RECEIPTS.

From gate receipts	$5,393 16
From rent of grounds, stalls, etc	126 00
From rent of privileges	2,100 00
From annual members	298 00

From life members	$170 00	
From entries for races	782 00	
From State	1,263 04	
From extra entrance fees and advertising	198 00	
From hay sold	8 00	
From former treasurer	31 38	
Receipts for 1896		$10,369 58
Total receipts		$10,369 58

DISBURSEMENTS.

For labor		$1,125 22	
For material		1,041 52	
For salaries		300 00	
For printing and advertising		908 52	
For insurance		168 00	
For attractions, bicycles, etc		469 19	
For race purses		1,980 00	
For premiums on horses	$472 25		
For premiums on cattle	1,089 25		
For premiums on sheep	288 00		
For premiums on swine	209 50		
For premiums on poultry	212 25		
For premiums on farm produce	433 25		
For premiums on domestic	409 00		
For premiums on implements and machines	148 00		
For premiums on flowers	59 50		
For premiums on fruits	52 25		
For premiums on miscellaneous	328 25		
Total premiums		3,701 50	
Total disbursements			9,693 95
Balance (credit)			$675 63

Albert Stewart	**President.**
Francis B. Davis	**Treasurer.**

WASHINGTON — CAMBRIDGE VALLEY AGRICULTURAL SOCIETY AND STOCK BREEDERS' ASSOCIATION.

RECEIPTS.

From gate receipts	$6,546 40	
From grand stand	1,983 20	
From rent of privileges	4,712 04	
From entries for races	675 00	
From State	2,000 00	
From notes	5,300 00	
From checkroom	210 30	
Receipts for 1896		$21,426 94
Total receipts		$21,426 94

DISBURSEMENTS.

For permanent improvements		$603 48	
For labor		1,237 33	
For salaries		525 00	
For miscellaneous		1,936 04	
For printing, advertising, hay, grain, etc.		2,219 50	
For payment on indebtedness and new note		7,341 08	
For race purses		2,294 00	
For premiums on horses	$531 00		
For premiums on cattle	1,190 00		
For premiums on sheep	668 00		
For premiums on swine	437 00		
For premiums on poultry	829 50		
For premiums on farm produce	186 00		
For premiums on dairy products	11 00		
For premiums on domestic	582 94		
For premiums on flowers	53 55		

For premiums on fruits	$56 25		
For premiums on miscellaneous	470 46		
Total premiums		$5,015 70	
Total disbursements			$21,172 13
Balance (credit)			$254 81

Jerome B. Rice	President.
Henry A. Qua	Treasurer.

WAYNE.

RECEIPTS.

From gate receipts	$347 55	
From rent of grounds	101 00	
From rent of privileges	82 50	
From annual members	255 00	
From entries for races	70 00	
From State	531 17	
Receipts for 1896		$1,387 22
Total receipts		$1,387 22

DISBURSEMENTS.

For permanent improvements		$128 01
For labor		238 77
For material		68 23
For printing		110 85
For payment on indebtedness		564 11
For race purses		207 50
For premiums on horses	$42 50	
For premiums on cattle	44 50	
For premiums on sheep	29 25	
For premiums on swine	34 25	
For premiums on poultry	25 88	
For premiums on farm produce	27 13	

For premiums on dairy products	$0 25		
For premiums on domestic	23 74		
For premiums on implements and machines	5 00		
For premiums on flowers	4 50		
For premiums on fruits	18 88		
For premiums on miscellaneous,	2 50		
Total premiums		$258 38	
Total disbursements			$1,575 85
Balance (debit)			$188 63

W. A. Langdon.................................... President.

David E. Snyder.................................... Treasurer.

WESTCHESTER—SOCIETY OF AGRICULTURE AND HORTICULTURE OF WESTCHESTER COUNTY.

RECEIPTS.

Balance as per last report		$1,154 67
From gate receipts	$7,343 35	
From rent of grounds	400 00	
From rent of privileges	998 50	
From entries for races	1,110 00	
From State	1,948 17	
Receipts for 1896		11,800 02
Total receipts		$12,954 69

DISBURSEMENTS.

For permanent improvements	$250 00
For labor	1,691 60
For material	1,250 00
For salaries	600 00
For miscellaneous, advertising, etc	2,500 00

For payment on indebtedness		$1,000 00	
For race purses		2,000 00	
For premiums on horses	$201 00		
For premiums on cattle	379 00		
For premiums on sheep	220 00		
For premiums on swine	161 00		
For premiums on poultry	190 00		
For premiums on farm produce	1,311 45		
For premiums on domestic	764 75		
For premiums on implements and machines	25 00		
For premiums on flowers	6 00		
For premiums for fruits	91 00		
Total premiums		3,349 20	
Total disbursements			$12,640 80
Balance (credit)			$313 89

John B. Tompkins	President.
Joseph B. Lee	Treasurer.

WYOMING.

RECEIPTS.

From gate receipts	$120 95	
From rent of grounds	151 80	
From rent of privileges	19 00	
From annual members	127 00	
From entries for races	31 25	
From State	504 13	
From avails of note	1,757 61	
From miscellaneous sources	48 97	
Receipts for 1896		$2,760 71
Total receipts		$2,760 71

DISBURSEMENTS.

For permanent improvements		$298 66	
For labor		289 20	
For material		90 37	
For salaries		75 00	
For printing and advertising		180 31	
For incidentals		29 78	
For payment on indebtedness		938 04	
For race purses		125 00	
For premiums on horses	$145 00		
For premiums on cattle	207 00		
For premiums on sheep	98 00		
For premiums on swine	68 00		
For premiums on poultry	10 00		
For premiums on farm produce	15 75		
For premiums on dairy products	15 75		
For premiums on domestic	55 95		
For premiums on flowers	3 75		
For premiums on fruit	19 75		
For premiums on miscellaneous	44 00		
Total premiums		682 95	
Total disbursements			$2,709 31
Balance (credit)			$51 40

A. A. Luther.. President.
John Underhill.. Treasurer.

YATES.

RECEIPTS.

Balance as per last report		$71 95
From gate receipts	$634 63	
From rent of grounds	133 35	
From rent of privileges	99 88	
From annual members	288 00	

From entries for races	$135 00	
From State	590 18	
From loans on notes	1,119 25	
Receipts for 1896		$3,000 29
Total receipts		$3,072 24

DISBURSEMENTS.

For permanent improvements		$27 95	
For labor		515 56	
For material		142 87	
For salaries		100 00	
Paid on loans		1,067 35	
For race purses		433 25	
For premiums on horses	$121 00		
For premiums on cattle	89 00		
For premiums on sheep	80 00		
For premiums on swine	66 00		
For premiums on poultry	105 00		
For premiums on farm produce	41 25		
For premiums on dairy products	2 50		
For premiums on domestic	110 60		
For premiums on flowers	11 50		
For premiums on fruits	135 50		
Total premiums		762 35	
Total disbursements			3,049 33
Balance (credit)			$22 91

R. B. Lefferts.................................... President.
Frank R. Cole.................................... Treasurer.

TOWN AND OTHER SOCIETIES:

ALLEGANY — CUBA FAIR AND AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts		$569 35	
From grand stand		161 50	
From rent of privileges		167 50	
From entries for races		202 00	
From State		473 61	
From exhibitors		454 00	
Receipts for 1896			$2,027 46
Total receipts			$2,027 46

DISBURSEMENTS.

For labor		$216 60	
For material		114 05	
For salaries		125 10	
For rent of grounds		250 00	
For race purses		656 00	
For premiums on horses	$196 00		
For premiums on cattle	201 00		
For premiums on sheep	46 00		
For premiums on swine	46 50		
For premiums on poultry	105 75		
For premiums on farm produce	118 25		
For premiums on domestic	172 25		
Total premiums		885 75	
Total disbursements			2,247 50
Balance (debit)			$220 04

George E. Amsden	President.
Henry C. Morgan	Treasurer.

ALLEGANY — WELLSVILLE FAIR ASSOCIATION.

RECEIPTS.

From gate receipts	$2,240 75	
From entries	154 25	
From rent of privileges	310 75	
From entries for races	360 00	
From State	511 55	
From subscription	81 00	
From treasury, 1895	622 91	
Receipts for 1896		$4,281 21
Total receipts		$4,281 21

DISBURSEMENTS.

For unpaid premiums, 1895		$10 75
For labor		523 25
For material		462 99
For salaries		128 00
For insurance		18 75
For interest		480 00
For payment on indebtedness		500 00
For race purses		965 00
For premiums on horses	$216 90	
For premiums on cattle	444 93	
For premiums on sheep	145 70	
For premiums on swine	3 75	
For premiums on poultry	14 25	
For premiums on farm produce	23 25	
For premiums on dairy products	22 00	
For premiums on domestic	101 52	
For premiums on implements and machines	24 00	
For premiums on flowers	12 75	

For premiums on fruits	$40 25		
For premiums on miscellaneous	38 30		
Total premiums		$1,087 60	
Total disbursements			$4,176 34
Balance (credit)			$104 87

D. C. Ackerman.............................. President.
John McEwen.............................. Treasurer.

BROOME—BINGHAMTON INDUSTRIAL EXPOSITION.

RECEIPTS.

From gate receipts	$3,146 41	
From grand stand	445 00	
From rent of privileges	454 75	
From entry fees and sale of hay and straw	480 18	
From entries for races	580 00	
From State ($2,000 of this amount from special act of 1894)	2,882 81	
From other sources	2,000 00	
Receipts for 1896		$9,989 15
Total receipts		$9,989 15

DISBURSEMENTS.

For labor		$581 78
For material and sundries		172 81
For salaries		495 27
For printing, advertising and amusements		920 05
For rent		700 00
For payment on indebtedness and interest		3,189 14
For race purses		1,316 25
For premiums on horses	$101 00	

For premiums on cattle	$638 50		
For premiums on sheep	393 00		
For premiums on swine	65 50		
For premiums on poultry	320 50		
For premiums on farm produce	35 50		
For premiums on domestic	216 00		
For premiums on flowers	101 00		
For premiums on fruits	86 45		
For premiums on miscellaneous	174 59		
Total premiums		$2,132 04	
Total disbursements			$9,507 34
Balance (credit)			$481 81

Julius E. Rogers.................................. President.
Fred. H. Matthews.................................. Treasurer.

CATTARAUGUS—FRANKLINVILLE DRIVING PARK AND AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts	$925 15	
From rent of privileges	330 00	
From entries for races	165 00	
From State	439 36	
From exhibitors	689 00	
Receipts for 1896		$2,548 51
Total receipts		$2,548 51

DISBURSEMENTS.

For labor and incidentals	$659 44
For salaries	175 00
For printing	145 45
For music	75 00
For payment on indebtedness	400 00
For race purses	712 50

For premiums on horses	$107 00		
For premiums on cattle	146 00		
For premiums on sheep	54 00		
For premiums on swine	34 00		
For premiums on poultry	60 25		
For premiums on farm produce	34 00		
For premiums on dairy products	9 75		
For premiums on domestic	143 25		
For premiums on flowers	12 75		
For premiums on fruits	10 00		
For premiums on miscellaneous	47 75		
Total premiums		$658 75	
Total disbursements			$2,826 14
Balance (debit)			$277 63

CHENANGO—AFTON DRIVING PARK AND AGRICULTURAL ASSOCIATION.

RECEIPTS.

From gate receipts	$2,289 30	
From rent of grounds	125 00	
From rent of privileges	481 45	
From entries for races	109 00	
From State	543 00	
Receipts for 1896		$3,547 75
Total receipts		$3,547 75

DISBURSEMENTS.

For permanent improvements	$31 73
For labor and printing	381 71
For material	71 85
For salary (secretary)	39 00
For insurance and incidentals	111 99
For attractions and music	346 20

For payment on indebtedness and interest		$841 63	
For race purses		597 00	
For premiums on horses	$141 00		
For premiums on cattle	371 00		
For premiums on sheep	73 00		
For premiums on swine	32 00		
For premiums on poultry	96 45		
For premiums on farm produce.	46 00		
For premiums on dairy products.	17 00		
For premiums on domestic	150 05		
For premiums on implements and machines	18 20		
For premiums on flowers	25 20		
For premiums on fruits	21 15		
For premiums on miscellaneous.	68 20		
Total premiums		1,059 25	
Total disbursements			$3,480 36
Balance (credit)			$67 39

CHENANGO — RIVERSIDE AGRICULTURAL SOCIETY.

RECEIPTS.

Balance as per last report		$612 33
From gate receipts	$1,552 00	
From grand stand	252 65	
From rent of privileges	434 75	
From advertising in premium list	72 00	
From entries for races	185 00	
From State	569 72	
From rent of sprinkler	37 50	
From feed sold	20 22	
Receipts for 1896		3,123 84
Total receipts		$3,736 17

DISBURSEMENTS.

For permanent improvements		$260 63	
For insurance on buildings		84 00	
For unpaid bills (1895)		20 41	
For salaries		75 00	
For special attractions		175 00	
For premium list		72 00	
For expenses of fair		714 65	
For race purses		605 00	
For premiums on horses	$200 00		
For premiums on cattle	407 00		
For premiums on sheep	95 00		
For premiums on swine	32 00		
For premiums on poultry	154 00		
For premiums on farm produce	48 75		
For premiums on dairy products	12 80		
For premiums on domestic	232 55		
For premiums on implements and machines	46 50		
For premiums on flowers	13 85		
For premiums on fruits	22 55		
For premiums on miscellaneous	2 60		
Total premiums		1,267 60	
Total disbursements			$3,274 29
Balance (credit)			$461 88

Curtis Winston............................... President.
Joseph E. Juliand............................... Treasurer.

COLUMBIA — COLUMBIA AGRICULTURAL AND HORTICULTURAL ASSOCIATION.

RECEIPTS.

Balance as per last report		$428 84
From gate receipts	$2,229 50	

From rent of privileges		$456 64	
From exhibitors' entries		227 00	
From entries for races		437 50	
From State		527 62	
From race fines		9 00	
Receipts for 1896			$3,887 26
Total receipts			$4,316 10

DISBURSEMENTS.

For miscellaneous expenses		$244 31	
For labor		316 25	
For advertising		536 07	
For salary (secretary)		100 00	
For special attractions		140 00	
For music		80 00	
For payment on indebtedness		428 84	
For race purses		1,296 15	
For premiums on horses	$168 00		
For premiums on cattle	118 00		
For premiums on sheep	210 00		
For premiums on swine	81 00		
For premiums on poultry	103 50		
For premiums on farm produce.	71 00		
For premiums on domestic	36 25		
For premiums on domestic manufactures, art, etc	246 25		
For premiums on miscellaneous,	119 00		
Total premiums		1,153 00	
Total disbursements			4,294 62
Balance (credit)			$21 48

Delbert Dinehart	President.
Fred. S. Hallenbeck	Treasurer.

DELAWARE — CATSKILL MOUNTAIN AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts	$1,396 55	
From rent of grounds	42 39	
From rent of privileges	428 35	
From annual members	400 67	
From entries for races	240 00	
From State	405 49	
From advertising	21 27	
Receipts for 1896		$2,934 72
Total receipts		$2,934 72

DISBURSEMENTS.

Due from last year		$104 14
For printing and advertising		164 89
For labor		304 56
For material		62 39
For salaries		149 20
For amusements		145 00
For music		50 00
For payment on indebtedness		163 03
For race purses		791 00
For premiums on horses	$84 00	
For premiums on cattle	196 50	
For premiums on sheep	24 00	
For premiums on poultry	75 76	
For premiums on farm produce	47 28	
For premiums on dairy products	32 00	
For premiums on domestic	23 85	
For premiums on implements and machines	9 75	
For premiums on flowers	32 18	

For premiums on fruits	$40 25		
For premiums on miscellaneous	168 77		
Total premiums		$734 34	
Total disbursements			$2,668 55
Balance (credit)			$266 17

Thomas Winter	President.
James H. Hitt	Treasurer.

DELAWARE — DELAWARE VALLEY AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts	$1,877 05	
From rent of privileges	588 00	
From annual members	600 00	
From State	792 91	
Receipts for 1896		$3,857 96
Total receipts		$3,857 96

DISBURSEMENTS.

Due from last year		$300 00
For permanent improvements		446 89
For labor		382 00
For material		400 00
For salaries		490 00
For rent of ground		100 00
For payment on indebtedness (interest).		18 00
For premiums on horses	$359 75	
For premiums on cattle	464 50	
For premiums on sheep	120 50	
For premiums on swine	77 00	
For premiums on poultry	134 75	
For premiums on farm produce.	175 38	
For premiums on dairy products.	16 00	

For premiums on domestic	$282 25		
For premiums on implements and machines	13 50		
For premiums on flowers	24 90		
For premiums on fruits	112 18		
For premiums on miscellaneous	240 36		
Total premiums		$2,021 07	
Total disbursements			$4,157 96
Balance (debit)			$300 00

A. F. Reynolds.................................... President.
W. A. Shepard.................................... Treasurer.

DELAWARE — SIDNEY FAIR ASSOCIATION.

RECEIPTS.

From gate receipts	$1,915 05	
From rent of grounds	8 00	
From rent of privileges	438 06	
From entries for races	1,068 85	
Receipts for 1896		$3,429 96
Total receipts		$3,429 96

DISBURSEMENTS.

For permanent improvements		$702 07
For labor		327 79
For material		239 61
For attractions		594 60
For advertising		320 47
For race purses		2,500 00
For premiums on horses	$82 00	
For premiums on cattle	615 00	
For premiums on sheep	46 00	
For premiums on swine	28 00	
For premiums on farm produce	53 85	

For premiums on domestic....	$193 25		
For premiums on implements and machines...............	19 25		
For premiums on flowers.......	23 90		
For premiums on fruits........	20 95		
Total premiums..................		$1,082 20	
Total disbursements.............................			$5,766 74
Balance (debit).............................			$2,236 78

Wm. T. Sherwood.............................. President.
H. W. Clark.................................. Treasurer.

JEFFERSON — CAPE VINCENT AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts..................	$842 32	
From rent of grounds.................	12 50	
From rent of privileges...............	109 00	
From annual members................	110 00	
From entries for races...............	120 00	
From State..........................	339 25	
From advertisements in premium list...	137 00	
Receipts for 1896.............................		$1,670 07
Total receipts............................		$1,670 07

DISBURSEMENTS.

For labor.............................		$70 07
For salaries..........................		100 00
For other expenses....................		466 34
For payment on indebtedness..........		42 00
For race purses.......................		486 25
For premiums on horses.......	$136 50	
For premiums on cattle.......	81 00	
For premiums on sheep........	25 50	

For premiums on swine	$21 75	
For premiums on poultry	13 85	
For premiums on farm produce	67 01	
For premiums on dairy products	13 50	
For premiums on domestic	102 50	
For premiums on flowers	9 49	
For premiums on fruits	28 87	
For premiums on miscellaneous	8 61	
Total premiums		$508 58
Total disbursements		$1,673 24
Balance (debit)		$3 17

Philetus S. Judd .... President.
Charles B. Wood .... Treasurer.

LIVINGSTON—HEMLOCK LAKE UNION AGRICULTURAL SOCIETY.

RECEIPTS.

Balance as per last report		$698 88
From gate receipts	$448 55	
From rent of grounds	60 00	
From rent of privileges	170 80	
From annual members	729 00	
From entries for races	58 00	
From State	382 32	
From old wood	13 60	
From interest on bank deposit	15 00	
Receipts for 1896		1,877 27
Total receipts		$2,576 15

DISBURSEMENTS.

For permanent improvements	$562 34	
For labor	82 63	
For material	74 24	

For salaries		$127 00	
For printing and insurance		102 60	
For rent of grounds		120 00	
For payment on indebtedness, specials and band		106 00	
For race purses		305 00	
For dinners for officers and judges		62 30	
For interest		4 20	
For premiums on horses	$106 00		
For premiums on cattle	98 00		
For premiums on sheep	100 00		
For premiums on swine	51 00		
For premiums on poultry	14 55		
For premiums on farm produce.	36 24		
For premiums on dairy products.	7 75		
For premiums on domestic	188 80		
For premiums on flowers	3 25		
For premiums on fruits	5 50		
For premiums on miscellaneous.	8 50		
Total premiums		619 59	
Total disbursements			$2,165 90
Balance (credit)			$410 25

E. J. Jenks .... President.
Willis Adams .... Treasurer.

MONROE—BROCKPORT UNION AGRICULTURAL SOCIETY.

RECEIPTS.

Balance as per last report		$152 31
From gate receipts	$2,422 90	
From rent of grounds	52 00	
From rent of privileges	371 00	
From entries for races	328 50	
From State	717 45	

From sundries		$194 05	
From bills payable		900 00	
Receipts for 1896			$4,985 90
Total receipts			$5,138 21

DISBURSEMENTS.

For permanent improvements		$421 29	
For labor and material		319 28	
For salaries		175 00	
For expenses, attractions, etc		1,548 18	
For bills payable		200 00	
For payment on indebtedness		350 00	
For race purses		650 00	
For premiums on horses	$245 00		
For premiums on cattle	288 00		
For premiums on sheep	284 00		
For premiums on swine	45 00		
For premiums on poultry	187 50		
For premiums on farm produce.	55 50		
For premium on dairy products.	9 00		
For premiums on domestic	197 00		
For premiums on flowers	21 50		
For premiums on fruits	103 00		
For premiums on miscellaneous.	8 75		
Total premiums		1,444 25	
Total disbursements			5,108 00
Balance (credit)			$30 21

E. Garrison	President.
R. C. Hull	Treasurer.

ONEIDA—BOONVILLE FAIR ASSOCIATION.

RECEIPTS.

Balance on hand			$478 51
From gate receipts		$1,826 50	

From grand stand	$175 65	
From rent of privileges	360 50	
From advertising	48 00	
From entries for races	15 00	
From State	430 70	
Receipts for 1896		$2,856 35
Total receipts		$3,334 86

DISBURSEMENTS.

For rent		$305 10	
For labor		120 51	
For material		223 52	
For salaries		195 00	
For advertising, bands, etc		852 91	
For dividends on stock		388 60	
For miscellaneous		30 00	
For race purses		333 00	
For premiums on horses	$143 00		
For premiums on cattle	248 00		
For premiums on sheep	15 00		
For premiums on swine	43 00		
For premiums on poultry	59 00		
For premiums on farm produce.	32 00		
For premiums on dairyproducts.	17 00		
For premiums on domestic	99 00		
For premiums on flowers	27 50		
For premiums on fruits	10 50		
For premiums on miscellaneous.	56 75		
Total premiums		750 75	
Total disbursements			3,199 39
Balance (credit)			$135 47

Charles E. Thompson	President.
Benjamin A. Capron	Treasurer.

ONEIDA—CAMDEN INDUSTRIAL ASSOCIATION.

RECEIPTS.

From gate receipts	$457 50	
From rent of grounds	59 00	
From rent of privileges	98 00	
From annual members	159 00	
From advertising in premium list	19 00	
From entries for races	31 50	
Receipts for 1896		$824 00
Total receipts		$824 00

DISBURSEMENTS.

For permanent improvements		$75 00	
For salaries		20 00	
For race purses		175 00	
For premiums on horses	$35 00		
For premiums on cattle	163 25		
For premiums on sheep	41 50		
For premiums on swine	27 50		
For premiums on poultry	24 00		
For premiums on farm produce.	38 25		
For premiums on dairy products.	14 25		
For premiums on domestic	73 55		
For premiums on implements and machines	23 50		
For premiums on flowers	19 25		
For premiums on fruits	18 50		
For premiums on miscellaneous.	42 70		
Total premiums		521 25	
Total disbursements			791 25
Balance (credit)			32 75

C. J. Williams.. President.
Riley M. Rush.. Treasurer.

ONONDAGA—PHOENIX UNION.

RECEIPTS.

From gate receipts	$876 30	
From rent of privileges	123 00	
From annual members	274 00	
From entries for races	175 75	
From State	519 27	
Receipts for 1896		$1,908 32
Total receipts		$1,908 32

DISBURSEMENTS.

For permanent improvements		$81 00	
For labor		281 35	
For material		350 14	
For salaries		65 00	
For rent of grounds		125 00	
For race purses		435 75	
For premiums on horses	$155 00		
For premiums on cattle	138 50		
For premiums on sheep	30 00		
For premiums on swine	40 00		
For premiums on poultry	32 50		
For premiums on farm produce	37 75		
For premiums on dairy products	2 50		
For premiums on domestic	54 00		
For premiums on flowers	7 00		
For premiums on fruits	20 00		
For premiums on miscellaneous	2 50		
Total premiums		519 75	
Total disbursements			1,857 99
Balance (credit)			$50 33

John O'Brien .... President.
H. A. Hughes .... Treasurer.

ONTARIO — GORHAM AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts	$329 00	
From rent of grounds	29 40	
From rent of privileges	40 15	
From annual members	140 00	
From entries for races	18 00	
From State	361 84	
From ex-treasurer	544 64	
From advertising, etc.	94 20	
Receipts for 1896		$1,556 63
Total receipts		$1,556 63

DISBURSEMENTS.

For permanent improvements (additional grounds bought)		$498 25
For labor (ditching and enlarging track).		316 48
For material		123 84
For printing		19 80
For sundries		45 27
For race purses		112 50
For premiums on horses	$142 50	
For premiums on cattle	35 00	
For premiums on sheep	40 00	
For premiums on swine	21 00	
For premiums on poultry	20 25	
For premiums on farm produce.	34 30	
For premiums on dairy products.	15 75	
For premiums on domestic	98 25	
For premiums on implements and machines	19 25	
For premiums on flowers	24 90	
For premiums on fruits	12 25	

For premiums on miscellaneous	$38 00		
Total premiums		$501 45	
Total disbursements			$1,617 59
Balance (debit)			$60 96

W. M. Witter .... President.
H. C. Wood .... Treasurer.

ONTARIO—NAPLES UNION AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts	$943 16	
From rent of privileges	129 25	
From annual members	191 00	
From entries for races	220 00	
From State	358 91	
From advertising premium list	68 74	
Receipts for 1896		$1,911 06
Total receipts		$1,911 06

DISBURSEMENTS.

For labor		$45 18
For material		67 80
For printing		91 95
For band		75 00
For annual rent		135 00
For race purses		678 37
For premiums on horses	$106 00	
For premiums on cattle	77 00	
For premiums on sheep	76 00	
For premiums on swine	21 00	
For premiums on poultry	42 75	
For premiums on farm produce	128 50	
For premiums on dairy products	7 00	
For premiums on domestic	98 00	

For premiums on implements and machines	$6 00		
For premiums on flowers	8 75		
For premiums on fruits	53 00		
For premiums on miscellaneous	37 50		
Total premiums		$661 50	
Total disbursements			$1,754 80
Balance (credit)			$156 26

W. H. Tobey	President.
D. J. Doughty	Treasurer.

OSWEGO — SANDY CREEK, RICHLAND, ORWELL AND BOYLSTON AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts	$676 00	
From grand stand	306 20	
From rent of privileges	360 50	
From annual members	1,533 00	
From entries for races	126 50	
From State	610 17	
From entries for bicycle races	7 75	
Receipts for 1896		$3,620 12
Total receipts		$3,620 12

DISBURSEMENTS.

For labor		$454 70
For material		93 01
For salaries		78 44
For music and attractions		440 55
For advertising		275 05
For insurance		16 00
For race purses		461 00
For premiums on horses	$199 00	
For premiums on cattle	483 50	

For premiums on sheep	$59 50		
For premiums on swine	82 00		
For premiums on poultry	62 75		
For premiums on farm produce	59 50		
For premiums on dairyproducts	19 00		
For premiums on domestic	256 30		
For premiums on implements and machines	8 00		
For premiums on flowers	42 25		
For premiums on fruits	19 50		
For premiums on miscellaneous	35 50		
Total premiums		$1,326 80	
Total disbursements			$3,145 55
Balance (credit)			$474 57

John R. Allen	President.
George T. Smith	Treasurer.

OTSEGO — BUTTERNUT VALLEY AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts	$2,358 10	
From rent of grounds	100 00	
From rent of privileges	384 00	
From entries for races	65 00	
From State	827 50	
From error; premium returned	3 00	
Receipts for 1896		$3,737 60
Total receipts		$3,737 60

DISBURSEMENTS.

For permanent improvements	$281 88	
For labor	472 62	
For material	97 05	

For salaries		$35 00	
For printing		96 90	
For judging		52 44	
For ball game		40 00	
For acrobats		10 00	
For race purses		294 00	
For premiums on horses	$107 00		
For premiums on cattle	498 75		
For premiums on sheep	161 00		
For premiums on swine	120 00		
For premiums on poultry	172 10		
For premiums on farm produce.	191 05		
For premiums on dairy products.	21 00		
For premiums on implements and machines	55 00		
For premiums on flowers	66 30		
For premiums on fruits	40 55		
For premiums on miscellaneous.	105 75		
Total premiums		1,891 87	
Total disbursements			$3,392 00
Balance (credit)			$345 60

Charles A. Bowne.................................. President.
D. I. Laurence.................................. Treasurer.

OTSEGO — ONEONTA UNION AGRICULTURAL SOCIETY.

RECEIPTS.

On hand from 1895 not yet disbursed		$364 82
From gate receipts	$2,630 35	
From rent of grounds	120 00	
From rent of privileges	705 25	
From annual members	302 00	
From entries for races	570 00	
From State	656 48	

From miscellaneous sources		$49 14	
From advertising in premium list and supplements		498 00	
Receipts for 1896			$5,531 22
Total receipts			$5,896 04

DISBURSEMENTS.

For permanent improvements		$568 06	
For labor		120 21	
For material		115 98	
For salaries		311 75	
For printing and advertising		483 03	
For miscellaneous		615 99	
For race purses		1,200 00	
For premiums on horses	$123 00		
For premiums on cattle	489 50		
For premiums on sheep	93 50		
For premiums on swine	24 00		
For premiums on poultry	85 00		
For premiums on farm produce.	116 05		
For premiums on dairy products.	101 50		
For premiums on domestic, art and fancy	325 75		
For premiums on flowers	12 75		
For premiums on fruits	49 40		
For premiums on miscellaneous.	107 00		
Total premiums		1,527 45	
Total disbursements			4,942 47
Balance (credit)			$953 57

W. L. Brown.. President.

H. M. Bard.. Treasurer.

OTSEGO — RICHFIELD SPRINGS AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts	$946 30	
From rent of grounds	25 00	
From rent of privileges	289 50	
From annual members	204 00	
From grand stand	68 75	
From entries for races	169 00	
From State	425 10	
From exhibitors	15 00	
Receipts for 1896		$2,142 65
Total receipts		$2,142 65

DISBURSEMENTS.

For labor		$389 74	
For material		60 98	
For salaries		65 00	
For rent		200 00	
For race purses		395 00	
For premiums on horses	$90 00		
For premiums on cattle	145 00		
For premiums on sheep	106 50		
For premiums on swine	50 00		
For premiums on poultry	32 50		
For premiums on farm produce	37 00		
For premiums on dairy products	34 20		
For premiums on domestic	131 65		
For premiums on flowers	14 50		
For premiums on fruits	24 05		
For premiums on miscellaneous	107 20		
Total premiums		772 60	
Total disbursements			1,883 32
Balance (credit)			$259 33

William Rose	President.
George T. Brockway	Treasurer.

OTSEGO—SCHENEVUS VALLEY AGRICULTURAL SOCIETY.

RECEIPTS.

Balance as per last report		$359 18
From gate receipts	$315 45	
From rent of privileges	187 15	
From annual members	81 00	
From entries for races	30 00	
From State	360 85	
From loan	50 00	
Receipts for 1896		1,024 45
Total receipts		$1,383 63

DISBURSEMENTS.

For permanent improvements		$40 00
For labor		63 70
For material and forage		68 10
For salaries		36 00
For printing and stationery		65 20
For rent, insurance, music, etc		173 79
For payment on indebtedness		336 00
For race purses		96 00
For premiums on cattle	$220 62	
For premiums on sheep	44 90	
For premiums on swine	9 90	
For premiums on poultry	49 73	
For premiums on farm produce.	52 04	
For premiums on dairy products.	2 70	
For premiums on domestic	99 68	
For premiums on implements and machines	6 75	

For premiums on flowers	$10 88		
For premiums on fruits	5 00		
Total premiums		$502 20	
Total disbursements			$1,380 99
Balance (credit)			$2 64

P. M. Hummell .... President.
E. J. Goddard .... Treasurer.

ROCKLAND—ROCKLAND COUNTY INDUSTRIAL ASSOCIATION.

DISBURSEMENTS.

Balance from 1895		$13 38
From gate receipts	$888 14	
From rent of privileges	166 50	
From annual members	242 00	
From donations from members	15 10	
From entries for races	601 50	
From State	342 99	
Receipts for 1896		2,256 23
Total receipts		$2,269 61

DISBURSEMENTS.

For labor		$221 21
For material		172 58
For brass band		100 00
For rent, etc		51 89
For other expenses		20 00
For race purses		1,165 00
For premiums on horses	$130 00	
For premiums on cattle	110 50	
For premiums on swine	1 95	
For premiums on poultry	27 10	
For premiums on farm produce.	46 40	
For premiums on dairyproducts.	2 45	

For premiums on domestic	$128 55		
For premiums on flowers	29 55		
For premiums on fruits	30 60		
Total premiums		$507 10	
Total disbursements			$2,237 78
Balance (credit)			$31 83

Jacob E. Vanderbilt	President.
Marsh S. Cropsey	Treasurer.

ST. LAWRENCE—GOUVERNEUR AGRICULTURAL AND MECHANICAL SOCIETY.

RECEIPTS.

From gate receipts	$1,339 65	
From rent of grounds	98 20	
From rent of privileges	363 65	
From annual members	64 00	
From entries for races	599 00	
From State	527 89	
From miscellaneous sources	1,061 49	
Receipts for 1896		$4,053 88
Total receipts		$4,053 88

DISBURSEMENTS.

For permanent improvements		$678 44
For labor		362 54
For salaries and general expenses		860 73
For miscellaneous		248 37
For race purses		1,359 50
For premiums on horses	$23 00	
For premiums on cattle	134 00	
For premiums on sheep	24 00	
For premiums on swine	28 00	
For premiums on poultry	3 75	
For premiums on farm produce	17 00	

For premiums on dairy products.	$33 96		
For premiums on domestic.....	16 75		
For premiums on flowers......	6 50		
For premiums on fruits........	3 75		
For premiums on miscellaneous.	85 25		
Total premiums		$375 96	
Total disbursements			$3,885 54
Balance (credit)			$168 34

Fred. J. Batton.................................... President.
T. J. Whitney....................................... Treasurer.

ST. LAWRENCE—RACKET VALLEY AND ST. REGIS VALLEY AGRICULTURAL SOCIETY.

RECEIPTS.

Balance as per last report........................		$342 03
From gate receipts....................	$1,853 37	
From grand stand....................	707 90	
From rent of grounds and privileges....	646 85	
From annual members.................	621 00	
From miscellaneous sources............	1,860 55	
From entries for races................	1,361 50	
From State..........................	762 45	
From rent of ground, 1895.............	60 00	
From bicycle races..................	15 00	
Receipts for 1896..............................		7,888 62
Total receipts..............................		$8,230 65

DISBURSEMENTS.

For permanent improvements..........	$344 55	
For labor.............................	269 34	
For material.........................	52 54	
For salaries.........................	275 00	
For expenses........................	1,692 90	
For bicycle races....................	112 00	

For premiums on fairs of 1895		$0 50	
For miscellaneous		954 74	
For race purses		2,460 00	
For premiums on horses	$195 00		
For premiums on cattle	467 00		
For premiums on sheep	121 00		
For premiums on swine	62 00		
For premiums on poultry	35 50		
For premiums on farm produce	68 75		
For premiums on dairy products	95 00		
For premiums on domestic	178 10		
For premiums on implements and machines	66 20		
For premiums on flowers	78 80		
For premiums on fruits	28 25		
For premiums on miscellaneous	201 30		
Total premiums		1,596 90	
Total disbursements			$7,758 47
Balance (credit)			$472 18

Frederic A. Weed .... President.
G. R. C. Smith .... Treasurer.

SCHOHARIE — COBLESKILL AGRICULTURAL SOCIETY.

RECEIPTS.

Balance as per last report		$696 54
From gate receipts	$2,895 88	
From rent of grounds	120 00	
From rent of privileges	658 60	
From annual members	922 00	
From entries for races	565 00	
From State	711 28	
From advertising	54 00	
Receipts for 1896		5,926 76
Total receipts		$6,623 30

DISBURSEMENTS.

For permanent improvements		$1,658 55	
For labor and material		1,436 01	
For salaries		100 00	
For special attractions		300 00	
For race purses		1,357 50	
For premiums on horses	$244 00		
For premiums on cattle	389 00		
For premiums on sheep	172 50		
For premiums on swine	87 50		
For premiums on poultry	180 25		
For premiums on farm produce	165 88		
For premiums on dairy products	24 25		
For premiums on domestic	310 81		
For premiums on implements and machines	36 50		
For premiums on flowers	6 01		
For premiums on fruits	55 25		
For premiums on miscellaneous	26 25		
Total premiums		1,698 20	
Total disbursements			$6,550 26
Balance (credit)			$73 04

Oscar F. Nelson.................................. President.
Martin D. Borst.................................. Treasurer.

STEUBEN — PRATTSBURGH UNION AGRICULTURAL SOCIETY.

RECEIPTS.

From ex-treasurer		$8 62
From gate receipts	$876 70	
From rent of privileges	83 05	
From annual members	129 50	
From entries for races	477 50	

From State	$342 82	
From voluntary contributions	34 50	
Receipts for 1896		$1,944 07
Total receipts		$1,952 69

DISBURSEMENTS.

For labor		$122 24	
For salaries		37 00	
For payment on indebtedness		313 00	
For race purses		900 00	
For premiums on horses	$102 00		
For premiums on cattle	73 00		
For premiums on sheep	110 00		
For premiums on swine	44 00		
For premiums on poultry	27 00		
For premiums on farm produce	55 95		
For premiums on dairy products	8 25		
For premiums on domestic	103 50		
For premiums on implements and machines	1 50		
For premiums on flowers	9 00		
For premiums on fruits	37 00		
For premiums on miscellaneous	7 75		
Total premiums		578 95	
Total disbursements			$1,951 19
Balance (credit)			$1 50

Henry Horton	President.
Frank McLean	Treasurer.

STEUBEN — SOUTHERN STEUBEN AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts	$431 95
From rent of privileges	100 00

From entries for races	$42 00	
From State	339 12	
From entry fees on premiums	100 49	
Receipts for 1896		$1,013 56
Total receipts		$1,013 56

DISBURSEMENTS.

For labor		$146 65	
For material		21 85	
For salaries		100 00	
For race purses		152 62	
For premiums on horses	$82 00		
For premiums on cattle	83 50		
For premiums on sheep	42 25		
For premiums on swine	65 00		
For premiums on poultry	47 10		
For premiums on farm produce	40 00		
For premiums on dairy products	3 00		
For premiums on domestic	125 50		
For premiums on implements and machines	4 00		
For premiums on flowers	12 00		
For premiums on fruits	22 25		
For premiums on miscellaneous	88 60		
Total premiums		615 20	
Total disbursements			1,036 32
Balance (debit)			$22 76

Harry Simpson .... President.
J. B. Murdock .... Treasurer.

TIOGA — NORTHERN TIOGA AGRICULTURAL SOCIETY.

RECEIPTS.

From treasurer, January 1, 1896		$531 10
From gate receipts	$1,394 70	

From rent of grounds		$6 00	
From rent of privileges		337 47	
From grand stand		121 02	
From bicycle entries		9 55	
From entries for races		282 00	
From State		424 71	
Receipts for 1896			$2,575 45
Total receipts			$3,106 55

DISBURSEMENTS.

For rent		$155 00	
For labor		473 09	
For material		283 01	
For salaries		50 00	
For music and special attractions		167 84	
For insurance		7 50	
For State and association dues		15 00	
For badges and prizes		126 50	
For race purses		480 00	
For premiums on horses	$82 00		
For premiums on cattle	277 25		
For premiums on sheep	57 75		
For premiums on swine	25 50		
For premiums on poultry	60 75		
For premiums on farm produce	19 75		
For premiums on dairy products	20 75		
For premiums on domestic	144 30		
For premiums on implements and machines	15 90		
For premiums on flowers	12 20		
For premiums on fruits	29 35		
For premiums on miscellaneous	40 90		
Total premiums		786 40	
Total disbursements			2,544 34
Balance (credit)			$562 21

S. L. Ball	President.
E. F. Belden	Treasurer.

TOMPKINS — DRYDEN AGRICULTURAL SOCIETY.

RECEIPTS.

Balance as per last report		$140 32
From gate receipts	$2,273 25	
From grand stand	221 40	
From rent of privileges	475 50	
From advertisements in premium book	174 00	
From advertisements on fence	48 00	
From entries for races	511 00	
From State	481 03	
From borrowed on note	300 00	
From miscellaneous sources	71 18	
Receipts for 1896		4,555 36
Total receipts		$4,695 68

DISBURSEMENTS.

For permanent improvements, labor and material		$1,127 28
For expenses of 1895; paid after report made		75 43
For advertising		472 80
For salaries		70 00
For interest and rent		102 60
For expenses		736 16
For race purses (horses, $980; bicycles, $54.50)		1,034 50
For premiums on horses	$99 25	
For premiums on cattle	265 50	
For premiums on sheep	75 75	
For premiums on swine	39 00	
For premiums on poultry	146 45	
For premiums on farm produce	56 40	
For premiums on dairy products	17 25	

For premiums on domestic.....	$186 00		
For premiums on implements and machines...............	10 00		
For premiums on flowers......	38 70		
For premiums on fruits........	23 30		
For premiums on miscellaneous.	86 05		
Total premiums..................		$1,043 65	
Total disbursements..............................			$4,662 42
Balance (credit)............................			$33 26

S. G. Lupton....................................	President.
D. T. Wheeler...................................	Treasurer.

TOMPKINS — UNION AGRICULTURAL AND HORTICULTURAL SOCIETY.

RECEIPTS.

From gate receipts....................	$1,291 53	
From rent of privileges...............	115 75	
From entries for races................	211 00	
From State............................	358 83	
From advertisements in premium book..	138 50	
From miscellaneous....................	31 40	
Receipts for 1896............................		$2,147 01
Total receipts..............................		$2,147 01

DISBURSEMENTS.

For permanent improvements..........	$71 75
For labor...........................	111 02
For purchase of buildings............	500 00
For salaries.........................	25 00
For incidental expenses..............	147 40
For printing and advertising..........	126 95
For bicycle races....................	38 00
For payment on indebtedness..........	38 80
For race purses......................	585 00

For premiums on horses	$162 00		
For premiums on cattle	82 00		
For premiums on sheep	71 00		
For premiums on swine	8 00		
For premiums on poultry	75 00		
For premiums on farm produce.	29 75		
For premiums on domestic	112 45		
For premiums on flowers	10 75		
For premiums on fruits	32 25		
For premiums on miscellaneous.	29 50		
Total premiums		$612 70	
Total disbursements			$2,256 62
Balance (debit)			$109 61

J. T. Howe .... President.
H. A. Mosher .... Treasurer.

WAYNE — PALMYRA UNION AGRICULTURAL SOCIETY.

RECEIPTS.

Balance as per last report		$1,091 78
From gate receipts	$1,628 26	
From rent of grounds	55 00	
From rent of privileges	125 00	
From State	525 31	
From interest on account	17 60	
Receipts for 1896		2,351 17
Total receipts		$3,442 95

DISBURSEMENTS.

For permanent improvements	$373 83
For labor	121 43
For material	137 46
For salaries	65 00
For expenses of delegate	11 99
For sundries	17 80

For band		$45 00	
For insurance		47 50	
For printing		55 18	
For dividend on stock		48 00	
For race purses		168 00	
For premiums on horses	$199 00		
For premiums on cattle	214 00		
For premiums on sheep	111 00		
For premiums on swine	82 00		
For premiums on poultry	109 25		
For premiums on farm produce	70 00		
For premiums on dairy products	15 25		
For premiums on domestic	8 00		
For premiums on implements and machines	39 00		
For premiums on flowers	24 50		
For premiums on fruits	42 25		
For premiums on miscellaneous	151 00		
Total premiums		1,065 25	
Total disbursements			$2,156 44
Balance (credit)			$1,286 51

C. D. Johnson .... President.
Harry D. Chapman .... Treasurer.

WYOMING—SILVER LAKE AGRICULTURAL SOCIETY.

RECEIPTS.

From gate receipts	$727 90	
From grand stand	97 95	
From rent of privileges	77 50	
From entries for races	239 25	
From State	435 36	
Borrowed on association note	300 00	
Receipts for 1896		$1,877 96
Total receipts		$1,877 96

DISBURSEMENTS.

Due from last year		$20 66	
For insurance		10 00	
For labor		52 00	
For material and supplies		5 05	
For salaries		75 00	
For sundry expenses		85 05	
For amusements		31 00	
For printing		44 65	
For payment on indebtedness		369 00	
For race purses and prizes		613 25	
For premiums on horses	$159 00		
For premiums on cattle	165 50		
For premiums on sheep	124 00		
For premiums on swine	54 00		
For premiums on poultry	27 00		
For premiums on farm produce	3 75		
For premiums on dairy products	9 50		
For premiums on fancy articles	45 00		
For premiums on flowers	5 25		
For premiums on fruits	2 25		
Total premiums		595 25	
Total disbursements			$1,900 91
Balance (debit)			$22 95

L. A. Macomber	President.
John H. Watson	Treasurer.

YATES—DUNDEE FAIR ASSOCIATION.

RECEIPTS.

Balance as per last report		$225 03
From gate receipts	$1,035 20	
From rent of grounds	130 00	
From subscriptions for band	15 50	
From entries for races	194 25	

From State	$410 27	
From interest on last year's balance deposit in bank	4 38	
From advertising in premium list	16 50	
Receipts for 1896		$1,806 10
Total receipts		$2,031 13

DISBURSEMENTS.

Due from last year		$27 25	
For rent of grounds		100 00	
For labor		119 64	
For material		101 17	
For salaries		50 00	
For advertising		83 75	
For bands		80 00	
For race purses		652 50	
For premiums on horses	$80 00		
For premiums on cattle	102 50		
For premiums on sheep	123 25		
For premiums on swine	12 50		
For premiums on poultry	39 25		
For premiums on farm produce.	6 00		
For premiums on dairy products.	2 75		
For premiums on domestic	110 75		
For premiums on implements and machines	5 00		
For premiums for flowers	5 00		
For premiums for fruits	66 25		
For premiums for miscellaneous.	14 00		
Total premiums		567 25	
Total disbursements			1,781 56
Balance (credit)			$249 57

Andrew Harpending .... President.
C. J. Watson .... Treasurer.

LIST

OF

Butter and Cheese Factories in the State, together with the Amount of the Product of each for the Season of 1896, and a Summary arranged by Counties and Towns.

NOTE.

The following census of butter and cheese factories shows that, of the 60 counties in the State, there are 17 — Columbia, Dutchess, Greene, Hamilton, Kings, New York, Orange, Putnam, Queens, Richmond, Rockland, Schoharie, Seneca, Suffolk, Ulster, Westchester and Yates — as shown by reports, in which no butter or cheese was made in factories during the year 1896. In the remaining 43 counties of the State the whole amount of butter and cheese made in factories was as follows: Whole number of butter factories, 289, making 18,505,904 pounds (a decrease of 22 factories with an increase of 1,574,737 pounds over 1894). Whole number of cheese factories, 1005, making 74,586,150 pounds of cheese (a decrease of 29 factories and 11,334,577 pounds of cheese as compared with 1894). Whole number of factories making both butter and cheese, 141, making 2,923,790 pounds of butter and 13,178,993 pounds of cheese (a decrease of 170 factories with a decrease in the product of 3,363,669 pounds of butter and 16,660,605 pounds of cheese as compared with 1894). Whole number of factories in the State, 1435, making 21,429,694 pounds of butter and 87,765,143 pounds of cheese (a decrease, from the year 1894, of 223 factories and 1,788,932 pounds of butter and 27,995,182 pounds of cheese).

ALBANY COUNTY.

BERNE.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Berne and Knox	Thos. J. Wood	Berne	Cheese.		18,431

ALLEGANY COUNTY.

ALFRED.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Alfred Center	Samuel Cornelius	Alfred	Cheese.		24,011
Alfred Creamery	E. P. Fenner	Alfred Station	B. & C.	4,901	12,075
Brown	T. G. Brown	Andover	Cheese.		39,800
Fenner's Home	E. P. Fenner	Alfred Station	do		55,200
Five Corners	do	do	do		56,148
Pleasant Valley	do	do	do		64,227

ALLEN.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Allen	Perry & Hogan	Belfast	do		60,000
Empire	Henry E. Osgood	Galen	do		51,740
Keystone	J. R. Lamont	Aristotle	do		170,000
Pratt	Fred R. Piatt	Angelica	do		80,072
West Hill	James McMertry	Caneadea	do		79,027

		ALMOND.			
Bishopville	Costello & Wyant	Nile	do	....	60,000
McHenry Valley	Samuel Cornelius	Alfred	do	....	36,790
		AMITY.			
Genesee Valley	B. D. Willard	Belvidere	do	....	83,800
Gilt Edge	J. C. Holden	Cuba	do	....	83,609
Withey	A. E. Hall	Withey	do	....	133,955
		ANDOVER.			
Andover	W. F. Snyder	Andover	do	....	163,000
Elm Valley	N. W. Stratton	Elm Valley	do	....	94,458
		ANGELICA.			
Angelica Union	Charles F. Potter	Independence	do	....	61,049
		BELFAST.			
Belfast	A. E. Perry	Belfast	B. & C.	21,271	149,921
Rockville	do	do	Cheese.	....	80,914
Transit Bridge	do	do	do	....	82,630
White Creek	W. E. Wilkinson	do	do	....	98,362
		BOLIVAR.			
Bolivar	Aaron Bledsoe	Bolivar	do	....	27,285
South Bolivar	B. F. Hayward	South Bolivar	do	....	35,366
		BURNS.			
Slater Creek	C. S. Swain	Canaseraga	do	....	20,444

ALLEGANY COUNTY — CANEADEA — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Caneadea	Young & Young	Fillmore	Cheese.	....	66,131
Houghton	P. B. Loftis	Houghton	do	....	75,125
Oramel	A. E. Perry	Belfast	do	....	48,700
Shongo	Young & Young	Filmore	do	....	39,000
CENTERVILLE.					
Babbitt	J. A. Hogg	Hume	do	....	70,000
Centerviile	W. D. Wilmont	Centerville	do	....	79,534
Starr	J. A. Hogg	Hume	do	....	55,000
CLARKSVILLE.					
Clarksville	M. M. Congdon	West Clarksville	do	....	190,000
Obi	do	do	do	....	100,000
CUBA.					
Cuba Village	A. S. Thompson	Cuba	B. & C.	18,614	93,198
Keller Hill	A. J. Reynolds	do	Cheese.	....	84,654
North Cuba	O. J. Warren	North Cuba	B. & C.	71,145	42,420
Rice	James P. Barr	Friendship	Cheese.	....	149,115
South Cuba	G. S. Marsh	Cuba	do	....	130,000

FRIENDSHIP.

Barr	John McCarthy	Friendship	do		78,850
Dayton	Costello & Wyant	Nile	do		50,000
Friendship	M. W. Hobart	Friendship	B. & C.	40,000	90,000
Nile	Costello & Wyant	Nile	Cheese.		190,000
North Branch	F. W. Harbeck	Friendship	do		118,621

GENESEE.

Little Genesee	C. A. Thompson	Little Genesee	do		97,000

GRANGER.

Short Tract	Young & Young	Fillmore	do		65,000

HUME.

County Line	do	do	do		22,462
Fillmore	do	do	B. & C.	6,000	80,000
Hume	do	do	Cheese.		34,648
Mill's Mills	A. L. Boller	Hume	do		52,104
Rush Creek	F. E. McMurtry	Fillmore	do		53,925
Stone Spring	Young & Young	do	do		86,626
Union	do	do	do		43,000
Wiscoy	do	do	do		123,621

INDEPENDENCE.

Cyder Creek	Hakes & Boyce	Wellsville	do		67,752
Independence	Charles F. Potter	Green's Corners	do		58,088
Spring Mills	C. L. Richardson	Spring Mills	do		112,142
Wildman	C. H. Austin	Whiteside	do		135,000

ALLEGANY COUNTY — NEW HUDSON — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory.	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Black Creek	M. J. Dunn	Black Creek	Cheese.	....	168,341
Hudson Center	William Cooper	New Hudson	do	....	86,926
Lafferty	James Loftis	Cuba	do	....	85,000
Marshall	A. E. Perry	Belfast	do	....	36,178
Mount Monroe	Charles E. Pettit	Rushford	do	....	61,839
Rawson	F. W. Hogg	New Hudson	do	....	150,000
		RUSHFORD.			
Brookside	M. E. Gordon	Rushford	do	....	55,765
Hardy's Corners	Charles E. Pettit	do	do	....	103,640
Kellogg	F. W. Hogg	New Hudson	do	....	45,000
Pearl Creek	do	do	do	....	90,000
Podonque	A. L. Althof	Rushford	do	....	48,107
Rushford	C. J. Elmer	do	do	....	146,449
West Branch	Kendall & James	do	do	....	62,203
		SCIO.			
Allentown	Riley Allen	Allentown	do	....	81,000
Knight's Creek	J. S. Coyle	Scio	do	....	71,427
Scio No. 1	Mrs. G. Blivin	do	do	....	82,735
Vandermark No. 2	G. E. Dodge	do	do	....	59,613

WARD.

Phillip's Creek	Ockerman & Fuller	Phillips Creek	do	....	116,638
Vandermark No. 1	G. E. Dodge	Scio	do	....	64,177
Wadsworth Hill	A. E. Hall	Withey	do	....	44,601

WELLSVILLE.

Crowner	William H. Wahl	Elm Valley	do	....	66,771
Trapping Brook	Mary J. Mead	Wellsville	do	....	30,396

WEST ALMOND.

Baker	James A. Baker	Angelica	do	....	45,000
West Almond	Alfred E. Fletcher	West Almond	do	....	106,536

WILLING.

Beech Hill	R. C. Allsworth	Shongo	do	....	89,739
Ford Brook	G. M. McKinley	Stannards	do	....	47,440
Hallsport	T. J. Carmody & Co.	Cuba	do	....	115,000
Shongo	R C. Allsworth	Shongo	do	....	40,000

WIRT

Inavall	Costello & Wyant	Nile	do	....	75,000
Richburg	F. J. Brown	Richburg	do	....	27,000
Wirt	Costello & Wyant	Nile	do	....	90,000

BROOME COUNTY.

CENTERVILLE.

Center Village	Tupper & Betts	Center Village	Butter	75,000	....

BROOME COUNTY — CHENANGO — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Castle Creek	E. H. Sherman	Castle Creek	Butter	50,000	....
		COLESVILLE.			
Hurd's	T. D. Hodge	Harpersville	do	15,583	....
Vallona Springs	Ely Tupper	Vallonia Springs	do	91,677	....
		FENTON.			
North Fenton	C. R. Paddleford	North Fenton	Cheese	....	50,966
		LISLE.			
Crystal Spring	Hotaling & Littlewood	Center Lisle	Butter	60,000	....
Livermore	D. R. Livermore	do	do	40,061	....
Willow Creamery	Geo. Merenus & Son	do	do	27,000	....
		MAINE.			
East Maine	Lanthan Rhodes	East Maine	do	19,564	....
Maine	Tinker & Wells	Maine	do	160,892	....
		NANTICOKE.			
Crescent Creamery	Barnes & Whittaker	Whitney's Point	do	32,000	....
Nanticoke	S. E. Lewis	Nanticoke	do	49,132	....

		SANFORD.			
Delaware Valley	S. S. Brown & Co	156 Essex st., N. Y.	do	26,000	....
North Sanford	E. W. Bilby	Sanford	do	46,000	....
Rural Hill	do	do	do	30,000	....
		TRIANGLE.			
Upper Lisle	A. E. Doane	Upper Lisle	B. & C.	20,496	71,638
		UNION.			
Crystal	G. L. Buffum	Union Center	Butter	30,000	....
Crystal Creamery Co	do	do	do	66,456	....
		VESTAL.			
Tracy Creek	S. H. Hayes	Tracy Creek	do	70,000	....
Vestal	John Du Bois	Vestal	do	93,634	....
Willow Point	J. S. Olmstead	Willow Point	do	18,240	....
		CATTARAUGUS.			
		ALLEGANY.			
Five Mile Union	E. D. Bennet	Allegany	Cheese	....	61,781
Four Mile Union	L. W. Howden	do	do	....	90,039
Wilber's Allegany	H. M. Wilber	do	do	....	144,900
		ASHFORD.			
Ashford	J. R. Zetwick	Ashford	do	....	108,794
Bellows	Andrew B. Neff	do	do	....	85,000
Bigelow	John W. Clair	Springville	do	....	76,508
Block	do	do	do	....	46,000

CATTARAUGUS COUNTY — ASHFORD — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Demmons	John W. Clair	Springville	Cheese.	....	34,000
Fox	do	do	do	....	30,763
Franktown	Andrew B. Neff	Ashford	do	....	66,000
Glen Brook No. 1	John F. Jenkle	Ellicottville	do	....	56,000
Riceville	Andrew B. Neff	Ashford	do	....	120,000
Schwartze	do	do	do	....	70,000
West Valley	John W. Clair & Co	Springville	do	....	50,449
		COLD SPRING.			
Randolph No. 1	Carpenter Bros	Randolph	do	....	200,000
		CONEWANGO.			
Axville	O. S. Wright	East Randolph	B. & C.	4,133	65,338
Clear Creek	J. D. Mather	Clear Creek	do	78,421	19,245
Elm Creek	D. A. Cowan	East Randolph	do	13,193	69,721
Highland	W. A. Hopkins	Conewango	do	6,204	71,465
Randolph No. 4	Carpenter Bros	Randolph	Cheese.	....	75,000
Randolph No. 5	do	do	do	....	100,000

DAYTON.

Cottage	John Olivay	Cottage	do	....	100,000
Markham's	S. D. Vance	East Concord	do	....	68,253
Rock Spring	E. C. Isbell	Dayton	Butter	17,000	....
Wesley	A. Howard	Wesley	Cheese	....	122,128

EAST OTTO.

East Otto No. 1	Ahrens & Zetwick	East Otto	do	....	152,380
East Otto No. 2	do	do	do	....	146,754
East Otto No. 3	do	do	do	....	99,433
East Otto No. 4	do	do	do	....	97,814
Frye	John W. Clair	Springville	do	....	36,000
Plato Union	John Wulff	Plato	do	....	90,000

ELLICOTTVILLE.

Beaver Meadows	John W. Clair & Co	Springville	do	....	50,000
Ellicottville	E. C. Allsworth	Ellicottville	do	....	41,000
Ellicottville Creamery	W D. Walrath	do	Butter	93,000	....
Glen Brook No. 2	John F. Jenkle	do	Cheese	....	80,000
Glen Brook No. 3	do	do	do	....	44,000
Irish Hill	Will Wulff	do	do	....	58,000
Vedder's Corners	J. W. Zeilman	Plato	do	....	88,900
Vinton	E. C. Allsworth	Ellicottville	do	....	82,000

FARMERSVILLE.

Bullock	Geo. E. Hogg	Franklinville	do	....	58,225
Fairview	D. L. Hooper	Fairview	do	....	104,276
Farmersville No. 1	C. E. Wright	Laidlaw	B. & C.	2,276	54,351

CATTARAGUS COUNTY — FARMERSVILLE — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Franklin No. 5	E. H. Farrington	Franklinville	Cheese.	....	28,919
Rock Spring No. 1	do	do	do	....	98,941
Sandusky No. 2	J. B. Lewis	Sandusky	do	....	53,347
Sandusky No. 9	do	do	do	....	72,629
West Farmersville	Charles Peavey & Son	Laidlaw	do	....	48,000
		FRANKLINVILLE			
Franklinville No. 1	E. H. Farrington	Franklinville	do	....	117,698
Franklinville No. 2	do	do	do	....	123,632
Franklinville No. 3	do	do	do	....	34,611
Franklinville No. 8	do	do	B. & C.	17,714	48,117
Franklinville No. 12	do	do	Cheese.	....	65,619
Grand Central	E. E. McNall	do	do	....	48,000
Pullman No. 20	J. W. Clair & Co	Little Valley	do	....	76,000
		FREEDOM.			
Freedom	S. J. Owens	Freedom	do	....	110,000
Sandusky No. 1	J. B. Lewis	Sandusky	do	....	98,666
Sandusky No. 3	do	do	do	....	62,445
Sandusky No. 5	do	do	do	....	42,196

GREAT VALLEY.

Double Mill Hill	E. D. Morey	Elkdale	do	....	57,800
Randall No. 24	J. W. Clair & Co	Little Valley	do	....	60,000
Sandusky No. 12	J. B. Lewis	Sandusky	do	....	81,727
Somerville	C. J. Clair	Little Valley	do	....	58,230

HINSDALE.

Fay Hollow	M. N. Costello	Hinsdale	do	....	172,776
Haskell Flats	Peter J. Pettit	Haskell Flats	do	....	195,569
Hinsdale	W. L. Hogg	Hinsdale	do	....	125,000

HUMPHREY.

Franklinville No. 4	E. H. Farrington	Franklinville	do	....	61,953
Franklinville No. 6	do	do	do	....	78,802
Franklinville No. 7	do	do	do	....	73,254
Franklinville No. 9	do	do	do	....	59,632
Franklinville No. 11	do	do	do	....	59,305

ISOHUA.

Abbott's Union	Thos. L. McVey	Abbott's	do	....	169,773
Dutch Hill	M. N. Costello	Hinsdale	do	....	97,961
Home	James N. Brown	Cuba	do	....	121,393

LEON.

Cattaraugus Lime Brook No. 5	P. F Jark	Otto	do	....	56,172
Champlain	I. P. Champlain	Leon	Butter.	3,500	....
Columbia	New York Milk Product Co.	300 Greenwich st., N.Y.	Cheese.	....	98,033
East Leon	A. Howard	East Leon	do	....	60,000
Ellington	Rowley & Older	Leon	do	....	66,604
North Leon	A. D. Ackler	do	do	....	21,202

CATTARAUGUS COUNTY — LITTLE VALLEY — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Elkdale	E. D. Morey	Elkdale	Cheese.	....	106,298
Little Valley No. 4	J. W. Clair & Co	Little Valley	do	....	155,000
		LYNDON.			
Abbott No. 2.	O. J. Foltz	Ischua	do	....	116,149
Elgin	S. M. Fisher	Elgin	do	....	49,436
Lyndon	Thomas Case	Franklinville	do	....	108,397
Stone	S. M. Fisher	Elgin	do	....	49,500
		MACHIAS.			
Farmersville No. 2	Wright Bros	Machias	B. & C.	6,610	55,779
Franklinville No. 10	E. H. Farrington	Franklinville	Cheese.	....	34,455
Franklinville No. 13	do	do	do	....	33,650
Napier	C. E. Napier	do	Butter.	51,000	....
West Machias	J. W. Clair & Co	Springville	Cheese.	....	90,000
		MANSFIELD.			
East Valley	G. C. Wulff	Ellicottville	do	....	67,515
Five Points No. 1	J. W. Clair & Co	Little Valley	do	....	140,000
Mansfield Lime Brook No. 3	F. W. Holmes	Otto	do	....	207,000
North Valley	Anson Fuss	Little Valley	do	....	102,090
Stebbins Lime Brook No. 4	P. F. Jark	Otto	do	....	62,071
Williams	J. W. Clair & Co	Little Valley	do	....	45,000

		NAPOLI.			
North Napoli No. 3	J. W. Clair & Co	Little Valley	do		105,000
South Napoli No. 4	do	do	do		155,000
Spring Valley	W. Peaslee & Son	Napoli	do		77,147
		NEW ALBION.			
Spring Brook No. 1	C. J. Buskist	New Albion	do		155,851
Spring Brook No. 2	do	do	do		67,707
Spring Brook No. 5	do	do	do		82,000
		OTTO.			
Dorsey	J. Dorsey	Otto	do		89,961
Lime Brook No. 1	P. F. Jark	do	do		135,757
Lime Brook No. 2	F. W. Holmes	do	do		241,000
North Otto	C. A. Facklam	do	do		83,200
Ross No. 1	E. P. Ross	Gowanda	do		59,069
Ross No. 2	do	do	do		68,642
		PERRYSBURGH.			
Dewey	S. D. Vance	East Concord	do		35,206
Perrysburgh	R. McCubbin	Perrysburgh	do		60,000
		PERSIA.			
Broadway	S. D. Vance	East Concord	do		23,204
Rich Valley	Henry J. Gould	Cattaraugus	do		84,566
		PORTVILLE.			
Bedford Corners	L. B. Humphrey	Portville	do		150,000
Lower Haskil	James J. Kirby	Olean	do		144,866
Van Brunt	A. Van Brunt	Portville	do		52,159

CATTARAUGUS COUNTY — RANDOLPH — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Cold Spring	New York Milk Product Co.	300 Greenwich st., N. Y.	Cheese.	....	92,554
Randolph No. 2	Carpenter Bros	Randolph	do	....	100,000
Randolph No. 3	do	do	do	....	110,000
RED HOUSE.					
Red House	Ira & C. P. Marsh	Red House	do	....	46,335
SOUTH VALLEY.					
Elko	D. H. Thompson	Randolph	do	....	48,477
Onoville	John Bishop	Onoville	Butter.	30,000	....
YORKSHIRE.					
Block	E. L. Jones	Delavan	Cheese.	....	38,907
Delavan	do	do	B. & C.	37,461	15,937
McKinstry	do	do	Cheese.	....	42,442
Marble Spring	do	do	do	....	34,053
West Yorkshire	do	do	do	....	28,857
Yorkshire Corners	do	do	do	....	39,242

CAYUGA COUNTY.

CATO.					
Cato	M. H. Ogelsbie	Jordan	do		69,113
Meridian	E. E. Ferris	Meridian	Butter	28,588	
GENOA.					
Genoa	D. M. Karn	Genoa	do	20,250	
IRA.					
Ira	Henry Bingham	Ira	do	16,000	
SEMPRONIUS.					
Sloan	H. E. Sloan	Kelloggsville	Cheese		90,000
SENNETT.					
Sennett	F. L. Tyler	Sennett	Butter	98,000	
STERLING.					
Sterling Valley	John McKnight	Sterling Valley	do	33,000	
SUMMER HILL.					
Como	Frank Griffin	Como	Cheese		45,000

CHAUTAUQUA COUNTY.

ARKWRIGHT.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Abbey	E. L. Lewis	Hamlet	Cheese.	....	85,358
Arkwright Center	F. W. Horton	Arkwright	do	....	66,773
Caneadea	New York Milk Product Co.	300 Greenwich st., N. Y.	do	....	39,111
BUSTI.					
Palmer Spring	F. H. Aldrich	Jamestown	Butter.	113,615	....
CARROLL.					
Carroll	L. F. Bunn	Frewsburg	do	30,161	....
Carroll Cold Spring	do	do	do	62,609	....
Fenton	F. J. Lewis	do	do	73,415	....
Nonpariel	F. E. Thayer	do	do	41,500	....
Riverside	E. A. Herrick	Ackley Station, Penn.	do	25,600	....
CHARLOTTE.					
Charlotte Center	M. R. Tarbox	Charlotte Center	Cheese.	....	63,413
Charlotte Union	Charlotte Union Cheese Factory Co.	do	do	....	46,629
Rood	Reed & Rood	Sinclairville	do	....	90,501
Sinclairville	New York Milk Product Co.	300 Greenwich st., N. Y.	do	....	163,387

CHAUTAUQUA.

Chautauqua	Myron Whitney	Sherman	do	....	29,922
Chautauqua Hill	Ingerson & Marsh	Brocton	do	....	86,000
Maple Grove	D. E. Morris	Mayville	Butter.	52,971	....
Mayville	M. T. Wakefield	do	Cheese.	....	45,796
N. Waterman	N. O. Waterman	De Wittville	do	....	154,071

CHERRY CREEK.

Ellington No. 8	E. F. Rowley	Kennedy	do	....	116,000
Linwood	D. H. Thompson	Randolph	do	....	101,045

CLYMER.

Clymer	F. W. Edmunds	Sherman	Butter.	74,323	....
Columbia	H. C. Card	Clymer	do	57,310	....
North Clymer	F. W. Edmunds	Sherman	do	44,390	....

ELLERY.

Alden	A. D. Alden	Sinclairville	Cheese.	....	78,944
Bemus Point	D. H. Thompson	Randolph	do	....	28,496
Ellery	Cowden Bros	Ellery	do	....	122,477
Waterman	P. G. Waterman	De Wittville	do	....	112,716
West Ellery	F. W. Stowell	Bemus Point	do	....	102,374

ELLICOTT.

Levant	Bedient & Benedict	Levant	Butter.	99,683	....

ELLINGTON.

Ellington No. 1	E. F. Rowley	Kennedy	Cheese.	....	80,048
Ellington No. 2	do	do	do	....	44,461
Ellington No. 3	do	do	do	....	50,000
Ellington No. 5	do	do	do	....	70,640

CHAUTAUQUA COUNTY — FRENCH CREEK — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Cutting Brook	H. R. Case	Cutting	Butter	133,403	....
French Creek	F. W. Edmunds	Sherman	do	74,425	....
Morgan Corner	J. I. Parkhurst	Clymer	do	30,823	....
		GERRY.			
Alliance	N. Tompkins & Son	Gerry	do	45,166	....
Dennison	F. C. Taylor	Sinclairville	Cheese	....	26,797
Ellington No. 6	E. F. Rowley	Kennedy	do	....	40,000
Gerry	N. Tompkins & Son	Gerry	Butter	67,749	....
Star	Marcus Pelton	do	do	30,725	....
		HANOVER.			
Forestville	L. Stanley	Forestville	Cheese	....	46,000
Nashville	C. Montgomery	Nashville	do	....	87,048
		HARMONY.			
Blockville	G. H. Burlage	Blockville	do	....	72,004
Goshen	J. J. Colwell	Bear Lake, Penn	do	....	65,644
Grant	F Wesley Engle	Broken Straw	do	....	38,424
Open Meadows	G. S. Cowles	Open Meadows	Butter	44,205	....
Panama	A. N. Vergitt	Panama	do	83,084	....
Watts Flats	W. T. Saxton	Watts Flats	B. & C.	30,000	8,000

		KIANTONE.			
Kiantone Valley	R. K. Houghwot	Kiantone	Butter	33,745	....
Stillwater	A. B Carter	Jamestown	do	61,280	....
		MINA.			
Findleys Lake	A. C. Tillolson	Findleys Lake	do	67,723	....
Mark's	F. W. Edmunds	Sherman	do	65,000	....
		POLAND.			
Cold Water	Sibley & Rowley	Kennedy	do	77,522	....
Ellington No. 4	E. F. Rowley	do	Cheese	....	77,663
		RIPLEY.			
Cold Spring	C. C Tryon	South Ripley	Butter	25,492	....
Empire	Frank Brownell	do	do	28,150	....
Star	F. W. Edmunds	Sherman	do	17,413	....
		SHERIDAN.			
Sheridan	L. Stanley	Forestville	Cheese	....	10,000
Sherman	M. W. Edmunds	Sherman	Butter	512,000	....
Whitney	W. B. Whitney	do	do	113,218	....
		STOCKTON.			
Bear Creek	George Manhart	Stockton	do	37,884	....
Cassadaga	E. C. Straight	Cassadaga	do	64,245	....
Centralia	New York Milk Product Co.	300 Greenwich st., N. Y.	Cheese	....	48,332
Lewis	S. W. Lewis	Stockton	do	....	61,010
Moon	Mallory & Thompson	Moons	do	....	49,176

CHAUTAUQUA COUNTY — VILLENOVA — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Beardsley	A. E. Day	South Dayton	Cheese.	....	94,934
Maple Hill	Delos Tanner	Hamlet	do	....	23,039
Wrights Corners	H. S. Southland	Villenova	do	....	51,398
CHEMUNG COUNTY.					
ELMIRA.					
W. G. Atwater	W. G. Atwater	Elmira	Butter.	22,502	....
M. S. Elston	M. S. Elston	do	do	500	....
HORSEHEADS.					
Home Farm Jersey	Horsehead Creamery Co.	Horseheads	B. & C.	375,500	125,000
Oak Grove	B. Moss	do	do	68,229	31,621
CHENANGO COUNTY.					
AFTON.					
Star	Eli Tupper	Nineveh Junction	Butter.	51,000	....
BAINBRIDGE.					
Bainbridge	Hovey, Clark & Co.	Bainbridge	do	418,118	....
West Bainbridge	Bentley & Clark	West Bainbridge	Cheese.	....	24,000

		COLUMBUS.			
Columbus	E. A. Sage, agt.	New Berlin	B. & C.	59,927	107,202
Cottage	William Casey	Sherburne	do	13,897	64,064
Tallette	E. A. Sage, agt.	New Berlin	do	15,776	54,717
		COVENTRY.			
Church	Church Brothers	Afton	do	34,978	17,652
Coventryville	Clark L. Horton	do	do	6,021	70,560
Excelsior	Parker, Edgerton & Co	Coventry	Butter.	83,958	....
		GREENE.			
Bobell	John Beal	Greene	B. & C.	2,500	25,000
Harbor	D. M. Race	do	do	3,568	71,447
Johnson	W. H. Webb	do	do	6,338	56,828
Marcy	L. A. Gross	do	Cheese.	....	109,382
Sage Brook	B. F. Osborn	do	B. & C.	4,588	50,000
		GUILFORD.			
Luthurve	E. A. Sage, agt	New Berlin	do	15,150	39,440
North Guilford	L. Shelton	Guilford	do	20,000	80,550
Rockdale	David W. Lewis	Rockdale	do	167,995	199,416
Smith	Levern Smith	Guilford	Cheese.	....	27,298
		LINCKLAEN.			
Harrington	E. F. Garner	Lincklaen	B. & C.	24,000	120,000
Mariposa	Fred. D. Saule	South Otselic	do	13,367	38,532
		NEW BERLIN.			
Cold Spring	F. S. Ainsworth	Norwich	do	14.245	47,231

CHENANGO COUNTY — NORTH NORWICH — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
North Norwich	E. A. Sage, agt.	New Berlin	B. & C.	6,679	32,736
		NORWICH.			
Lyon Brook	Olin P. Phetteplace	Norwich	do	20,805	101,376
Willowvale	C. C. McGillivray	do	do	6,000	60,070
		OXFORD.			
Midland	Hopkins & Burke	Oxford	Cheese.	....	13,802
Stone	C. M. Stone	do	B. & C.	8,690	34,487
		PITCHER.			
North Pitcher	M. A. Newton	North Pitcher	Cheese.	....	63,002
Union Valley	I. D. Hughes	Union Valley	B. & C.	10,203	66,719
Wheeler	B. H. Wheeler	Cortland	do	38,900	24,000
		PLYMOUTH.			
Excelsior	C. H. Southard	East McDonough	Butter.	16,000	....
		PRESTON.			
Empire	B. E. Holcomb	Oxford	Cheese.	....	127,182
Preston	C. H. Southard	East McDonough	do	....	112,428

SHERBURNE.

Harrisville	A. H. Dart	Sherburne	Butter.	17,057	....
Hillside	Andrew Gehan	do	B. & C.	7,494	36,122
Union	Geo. H. Holt	do	Cheese.	....	38,655

SMITHVILLE.

Cowles	Geo. D. Cowles	Greene	do	....	42,732
Deer Spring	G. C. Styles	Tyner	B. & C.	20,500	105,400
Smithville Center	C. H. Southard	East McDonough	do	7,000	33,000
Smithville Flats	do	do	Butter.	9,000	....

SMYRNA.

Billings	Allen S. Hay	Earlville	do	53,945	....

CLINTON COUNTY.

ALTONA.

Altona	A. D. Boomhower	Plattsburgh	do	17,798	....
Irona	Homer Brooks	Irona	do	60,000	....
Rockside	Trombley Bros	Altona	do	80,676	....

BEEKMANTOWN.

Beekmantown	Michael Tohee	Beekmantown	do	21,263	....
Lake Side	Chellis Bros	Point Au Rock	do	11,809	....
McGaulley	P. McGaulley	West Beekmantown	do	30,131	....

CHAMPLAIN.

Champlain	Homer Brooks	Irona	do	65,000	....

CLINTON COUNTY — CHAZY — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Crystal Spring	Wm. McGaulley	West Chazy	Butter	142,458	....
Dunn	Seth Gordon	Chazy	do	11,100	....
CLINTON.					
Churubusco	A. D. Boomhower	Plattsburgh	do	62,111	....
Marble River	Humphrey Bros	Churubusco	do	60,950	....
Valley Spring	do	do	do	107,259	....
ELLENBURGH.					
Ellenburgh	Homer Brooks	Irona	do	70,000	....
Ellenburgh Center	A. D. Boomhower	Plattsburgh	do	25,000	....
Ellenburgh Depot	do	do	do	36,840	....
West Hill	Houghran & Fifield	Ellenburgh Center	do	118,900	....
MOOERS.					
Conner's Corners	A. D. Boomhower	Plattsburgh	do	35,580	....
Mooers	do	do	do	42,000	....
Mooers Forks	do	do	do	60,000	....
Oxford	Homer Brooks	Irona	do	45,500	....

PERU.

Peru	A. D. Boomhower	Plattsburgh	Cheese.	....	200,000
Smithdale	do	do	do	....	40,000

PLATTSBURGH.

Plattsburgh	do	do	Butter.	187,500	....
West Plattsburgh	do	do	do	36,771	....

SARANAC.

Dannemora	Owen Kunz	Saranac	do	18,000	....
Redford	M. J. Hanlon	do	do	18,500	....
Saranac	Dan Lyons	do	do	36,000	....

CORTLAND COUNTY.

CINCINNATUS.

Danie White	Danie White	Cincinnatus	B. & C.	36,000	24,000
Tillinghast	Wilber Holmes	do	do	14,859	28,964

CORTLAND.

East Side	E. C. Rindge	Cortland	Butter.	40,000	....
Sears	Frank H. Sears	do	Cheese.	....	108,523

CUYLER.

Andrews	H. P. Andrews	Cuyler	do	....	28,000
Cuyler Hill	W. G. Cardner	do	B. & C.	23,749	51,265
Patrick's	J. W. Patrick	do	Cheese.	....	28,741

CORTLAND COUNTY — FREETOWN — (*Concluded.*)

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Freetown	A. A. Watrous	Freetown Corners	Butter	75,427	....
Maplewood Place	Wm. H. Caldwell	East Freetown	do	43,079	....
Maple Shade	L. L. Harvey	Texas Valley	B. & C.	48,703	17,333
		HARFORD.			
Trout Brook	H. R. Conred	Harford Mills	Butter	20,500	....
		HOMER.			
* East Homer	Henry Rauch	20 Garden st., Brooklyn.	B. & C.	8,200	7,559
East Homer Creamery	R. Hibbard	East Homer	Butter	4,993	....
Highland	Charles Knapp	do	do	11,822	....
West Hill	E. R Hall	Homer	Cheese	....	195,453
		LAPEER.			
House	J. C. House	Marathon	do	....	44,363
Hunt's Corners	Jabez Smith	Newark Valley	Butter	21,100	....
		MARATHON.			
Keeler's	Chauncy Keeler	Marathon	Cheese	....	68,661
Meacham	C. D. Meacham	do	do	....	67,860
Wightmore's	Homer Wightmore	do	B. & C.	40,000	24,260

		SCOTT.			
Bear Spring	Arthur C. Clark	Solon	do	7,320	40,000
		SOLON.			
Central	George S. Davis	McGrawville	Cheese.	....	82,969
Maple Grove	George E. Dodd	do	do	....	57,247
North Solon	C. W. Ellis	do	do	....	13,379
		TAYLOR.			
De Long	W. H. De Long	Taylor Center	B. & C.	18,110	88,281
Hawley	Wilson Hawk	Taylor Valley	do	12,772	44,875
Spring Brook	Wright Bros	Cincinnatus	do	12,200	87,000
Taylor	Isaiah Baldwin	Taylor	do	2,400	30,100
		VIRGIL.			
Virgil Spring	O. E. Stillman	Virgil	do	18,084	120,005
		WILLETT.			
Holenbeck	Seymore Holenbeck	Texas Valley	Cheese.	....	36,840

DELAWARE COUNTY.

		FRANKLIN.			
Arctic	Hunt & Jackson	Treadwell	Butter	31,500	....
Bunger & Wilt's	Bunger & Wilt	404 W. 31st st., N. Y.	do	42,105	....
Mills	Mills & Munion	North Franklin	do	19,174	....

* Shipped 1,390,896 gallons milk and 390 gallons cream. Made 40,290 pounds pot-cheese.

DELAWARE COUNTY — MASONVILLE — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Masonville	Fred W. Smith	Masonville	Butter.	74,598	....
Willis	J. O. Willis	do	do	31,964	....
		STAMFORD.			
Sheffield	Sheffield Dairy Co.	1026 Sixth ave., N. Y.	do	174,033	....
		TOMPKINS.			
Cannonsville	W. D. Lane	Afton	do	40,457	....
Cottowebekee	D. W. Louis	179 Chambers st., N. Y.	B. & C.	48,403	4,941
Loomis	do	do do	Butter.	47,070	....
Sherruck	do	do do	do	94,140	....

ERIE COUNTY.

NAME OF FACTORY.	Proprietor or manager.	Post office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
		AMHERST.			
East Amherst Creamery Co.	Michael Wambach	North Tonowanda	do	32,000	....
		AURORA.			
East Aurora	Richardson, Beebe & Co.	East Aurora	do	70,820	....

		BRANT.			
Brant Center	S. D. Vance	East Concord	Cheese.	....	41,320
		CLARENCE.			
Clarence Center	Wm. H. Breckan	Clarence Center	Butter.	123,414	....
		COLDEN.			
Colden	S. D. Vance	East Concord	Cheese.	....	38,060
Colden Center	Richardson, Beebe & Co	East Aurora	do	....	47,650
Glenwood	S. D. Vance	East Concord	do	....	37,775
North Colden	Richardson, Beebe & Co	East Aurora	do	....	21,491
		COLLINS.			
Clear Creek No. 1	J. C. Brigham	Collins Center	do	....	85,000
Clear Creek No. 2	do	do	do	....	90,000
Collins Center	S. D. Vance	East Concord	do	....	40,408
East Branch	do	do	do	....	115,430
Gowanda	do	do	do	....	77,689
Langford	do	do	do	....	70,273
Lawton's	do	do	do	....	87,150
South Branch	do	do	do	....	51,956
Tabor	do	do	do	....	80,053
Union	do	do	do	....	37,441
West Branch	do	do	do	....	32,806
		CONCORD.			
Clair	S. D. Vance	East Concord	do	....	51,162
Dye	J. W. Clair	Springville	do	....	54,000
East Concord	S. D. Vance	East Concord	do	....	118,692
Pike	do	do	do	....	40,348

ERIE COUNTY — CONCORD — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Springville	J. W. Clair	Springville	Cheese.	....	107,900
Townsend Hill	do	do	do	....	79,400
West Concord	S. D. Vance	East Concord	do	....	41,086
Woodside No. 1	T. E. Moore	Morton's Corners	do	....	100,077
Wyndale	S. D. Vance	East Concord	do	....	36,770
EDEN.					
Eden Center No. 1	Martin Hasselbeck	594 Jefferson st., Buffalo	B. & C.	2,100	60,000
Eden Center No. 2	do	do	Cheese.	....	60,000
Eden Valley	Fred. Mersman	556 Broadway, Buffalo	B. & C.	2,015	24,300
EVANS.					
Pontiac	S. D. Vance	East Concord	Cheese.	....	32,695
HAMBURGH.					
Hamburgh	Fred. Mersman	556 Broadway, Buffalo	B. & C.	2,020	23,100
HOLLAND.					
East Holland	Richardson, Beebe & Co	East Aurora	Cheese.	....	74,095
Holland	do do	do	do	....	100,759
Protection	do do	do	do	....	42,014
South Colden	do do	do	do	....	72,902

MARILLA.

Clear Spring	Geo. Roll	Marilla	Butter.	102,000	....
Porterville	Richardson, Beebe & Co.	East Aurora	do	50,755	....

NEWSTEAD.

Akron	J. M. Robinson	Akron	do	58,303	....

NORTH COLLINS.

Clear Creek No. 3	J. C. Brigham	Collins Center	Cheese.	....	60,000
Langford	Fred. Mersman	556 Broadway, Buffalo.	B. & C.	2,640	30,800
Woodside	T. E. Moore	Morton's Corners	Cheese.	....	90,649

SARDINIA.

Chaffee	E. H. Farrington	Franklinville	do	....	71,500
Cloverland No. 1	J. S. Simmons	Sardinia	do	....	123,937
Cloverland No. 2	do	do	do	....	57,518
Henshaw	J. W. Clair	Springville	do	....	18,200
Mattson's	E. H. Farrington	Franklinville	do	....	71,300
Rider	J. W. Clair	Springville	do	....	54,000

WALES.

Hunter Creek	Richardson, Beebe & Co.	East Aurora	do	....	69,177
Wales	do do	do	Butter.	48,446	....
Wales Center	do do	do	do	116,516	....

ESSEX COUNTY.

WILLSBOROUGH.

Adirondack	A. D. Smith	Willsboro Point	do	2,999	....

FRANKLIN COUNTY.

BANGOR.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Adirondack	J. P. Carpenter	Bangor	Butter.	35,329	....
Cool Spring	Humphrey Bros	Churubusco	do	59,790	....
Donalson	I. S. Potter	West Bangor	do	53,067	....
Jenkins	H. A. Jenkins	Brushton	do	52,125	....
South Bangor	A. L. Knapp	Bangor	do	44,927	....
Stony Creek	M. J. Lawrence	West Bangor	do	40,180	....
BELLMONT.					
Bellmont Center	Homer E. Gary	Bellmont Center	do	13,242	....
Brainardsville	Reynolds & Chase	Brainardsville	do	59,746	....
West Bellmont	Wm. H. Foster, Jr	Malone	do	21,000	....
BOMBAY.					
Clark & Ross	E. O. Forbes	Fort Covington	do	47,900	....
Franklin Creek	Wm. H. McKenna	Bombay	do	102,800	....
Hogansburgh	H. E. Bouker	Hogansburgh	Cheese.	....	70,000
BRANDON.					
Skerry	G. A. Lane	Skerry	Butter.	80,215	....

BURKE.

Arctic	F. C. Ketchum	Burke	do	56,246	....
Elm Grove	R. N. Bassett	do	do	43,017	....
Jordan	Jordan Bros	Sun	do	28,120	....
Rose Dale	J. P. Foland	Burke	Cheese.	....	61,915
White's	Eli Darling	....	Butter.	52,000	....

CHATEAUGAY.

Amber	Mr. Chase	Chateaugay	do	72,500	....
Bailey Spring	B. O. Roulston	do	do	44,070	....
Maple Street	C. C. Douglas	do	do	107,327	....
River Street	A. W. Miller	do	do	57,000	....
Rose	C. E. Bentley	do	do	61,150	....

CONSTABLE.

Wentworth	A. H. Fay	Malone	do	48,100	....

DICKINSON.

Burnap	S. H. Burnap	Alburgh	do	60,000	....
Cold Spring	B. W. Bowen	Dickinson	do	25,100	....
Taylor	C. H. Taylor	East Dickinson	do	94,854	....

FORT COVINGTON.

Gold Coin	Sid Ellsworth	Fort Covington	do	45,112	....
Salmon	E. O. Forbes	do	do	138,000	....

FRANKLIN COUNTY — MALONE — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Berry	M. F. Berry	Fay	Butter.	44,778	....
Excelsior	F. R. Williamson	Malone	do	35,000	....
Fay	A. H. Fay	do	do	42,060	....
Keeler	S. A. Childs	do	do	26,299	....
Malone	L. H. Lester	do	do	63,658	....
MOIRA.					
Cold Well	D W. Westcott	Moira	do	35,025	....
Crystal	Burnap & Bryant	do	do	45,178	....
Gilt Edge	M. L. Denio	do	do	30,244	....
J. H. Griffin	J. H. Griffin	do	do	48,048	....
Silver Spring	B. C. O'Connor	do	do	68,200	....
WESTVILLE.					
Crystal Spring	J. W. Rowley	Westville Center	do	63,785	....

FULTON COUNTY.

JOHNSTOWN.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Cross Road	Elmer J. Dorn	Johnstown	Cheese.	....	36,946
Crown	Charles O. Cross	do	Butter.	3,960	....

OPPENHEIM.

Crum Creek	Eugene Failing	St. Johnsville	Cheese.	....	30,075
Zimmerman Creek	W. H. Yonker	Ingham's Mills	do	....	31,549

GENESEE.

BERGEN.

Cold Spring	F. W. Fanson	Bergen	Butter.	46,904	....

BYRON.

Byron	H. C. Norton	Byron	Cheese.	....	30,000

DARIEN.

Darien	Martin Hasselbeck	594 Jefferson st., Buffalo	B. & C.	1,900	55,000

ELBA.

Elba	W. H. Parker	Elba	do	27,484	1,520

LE ROY.

Beechnut	John F. Hager	Le Roy	Butter.	68,156	....

HERKIMER COUNTY.

COLUMBIA.

Columbia Center	N. J. Horton	Columbia Center	Cheese.	....	101,868

HERKIMER COUNTY — DANUBE — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Elm Grove	Fayette Wagner	Minden	Cheese.	....	37,232
Glenside	Wm. Owens	Little Falls	B. & C.	55,000	48,100
Hickory Grove	W. F. Lansing	do	Cheese.	....	48,736
Newville Association	O. S. Cagwin	Newville	do	....	126,188
		FAIRFIELD.			
Bartow Hill	J. W. Ford	Fairfield	do	....	88,338
A. Davis	C. C. Davis	Little Falls	do	....	35,000
Excelsior	A. Petrie	Middleville	Butter.	10,000	....
Fairfield Centennial	Alex. McKerrow	do	Cheese.	....	80,000
Fairfield Dairy Association	T. Atkins	Little Falls	do	....	141,922
Fenner	G. W. Fenner	Newport	do	....	44,900
A. Kellar	Willard Kellar	Little Falls	do	....	116,000
Kilts' Dairy	Willard Kilts	do	B. & C.	2,000	14,000
La Rue	L. A. La Rue	do	Cheese.	....	75,000
Middleville	A. W. Ford	Middleville	do	....	184,970
North Fairfield	M. J. Newman	Newport	do	....	53,900
Old Fairfield	A. C. Wilson	Fairfield	do	....	250,000
		FRANKFORT.			
Gilt Edge	E. C. Hall	Frankfort	do	....	33,000
E. E. Jones	E. E. Jones	do	do	....	118,861

GERMAN FLATS.

Dennison Corners	Est. of M. Getman	Mohawk	do	....	72,050
Fort Herkimer Union	J. Stolle	Herkimer	do	....	50,000
Fulmer Creek	A. R. Petrie	Mohawk	do	....	55,000
Morts	M. C. Morts	do	do	....	46,324
Paine's Hollow	Geo. H. Van Slyke	Edicks	do	....	87,332
Rising Star	John Conrad	Paine's Hollow	do	....	63,000

HERKIMER.

B. & C	Babcock & Christman	Herkimer	do	....	25,385
Countryman	B. F. Dickson	Countryman	do	....	66,572
Herkimer	Wm Kreuzer	Herkimer	do	....	40,000
Kast Bridge	Alvin Countryman	do	do	....	77,262
Nellis	H. E. Nellis	do	do	....	32,000
Shell's Bush	Ira Jones	do	do	....	60,000
Small's Bush	H. E. Casler	Little Falls	do	....	55,137
Springseck	W. E. Kay	Herkimer	Butter.	8,600	....

LITCHFIELD.

Cedar Lake	J. L. Carver	Cedar Lake	Cheese.	....	80,994
Cedarville	M. T. Morgan	West Winfield	do	....	91,126
Gulph	James Donohoe	Gulph	do	....	105,404
North Litchfield	H. H. Davis	North Litchfield	do	....	97,736
Quinlaven	T. B. Quinlaven	Litchfield	do	....	114,642

LITTLE FALLS.

Burt Grove	Ward Wakeman	Little Falls	do	....	43,029
Clover Valley	C. A. Ford	do	do	....	93,330
Eatonville	Truman Cole	do	do	....	217,000

HERKIMER COUNTY — LITTLE FALLS — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Hill	L. G. Rankin	Little Falls	Cheese.	....	70,000
Little Falls	Edward Simms	do	do	....	55,000
Mohawk Valley	S. Garline	do	do	....	60,190
		MANHEIM.			
Brockett & Carley	N. S. Brockett	Dolgeville.	do	....	25,000
J. J. Cook	Myron G. Bronner	Little Falls	do	....	46,289
Manheim Cold Spring	N. C. Loucks	do	do	....	63,000
Manheim Turnpike	William Perkins	do	B. & C.	22,000	21,000
New Manheim	John Garlock	do	Cheese	....	92,000
Old Manheim	Joseph Rice	do	do	....	111,295
Peck	William Peck	Salisbury	do	....	37,500
C. W. Ransom	C. W. Ransom	Dolgeville	do	....	38,000
Snell's Bush	Moses Jones	East Creek	do	....	74,600
Vale	E. J. Burrell	Little Falls	B. & C.	8,098	17,578
		NEWPORT.			
Bernner	C. G. Babcock	Newport	do	7,253	41,185
Clover Leaf	Brown Bros	do	do	36,000	144,000
Hassenclever	W. J. Fitzgerald	Little Falls	do	1,100	158,000
Newport Hill	W. A. Brayton	Poland	Cheese	....	98,736
999	W. McKerrow	Middleville	do	....	69,384
Shed Brook	C. G. Babcock	Newport	do	....	41,792

NORWAY.

Black Creek	D. Darling	Gray	do	....	43,435
Gray	A. E. Snyder	do	do	....	48,000
J. J. Murphy	John C. Murphy	Norway	do	....	31,462
Norway	H. C. Nichols	do	do	....	198,000
Norway Association	F. F. Turck	Newport	B. & C.	4,329	110,375
Western & Tompkins	Charles Tompkins	Gray	Cheese.	....	16,100
White Creek	John Beard	Newport	do	....	172,325

OHIO.

Fisher Dairy	John H. Fisher	Cold Brook	do	....	18,000
Ohio Building Co	T. E. Curtis	Ohio	B. & C.	1,000	6,500

RUSSIA.

Carpenter	E L. Carpenter	Russia	Cheese.	....	63,000
Cold Brook	E. D. Connor	Cold Brook	do	....	68,000
G. Henckley	E. H. Hughes	Gravesville	do	....	69,305
Lanning	W. B. Lanning	Russia	do	....	67,767
D. McArthur	Daniel McArthur	Grant	do	....	45,303
Miles Moore	Miles Moore	Russia	do	....	100,000
Poland	J. B. Read	Poland	B. & C.	3,736	126,700

SALISBURY.

Avery & Ives	R. H. Strough	Salisbury Center	Cheese.	....	51,382
Cold Creek	I. Fox	Dolgeville	do	....	48,700
Cook, Ives & Co	A. Lambert	Salisbury	do	....	69,000
Old Salisbury	Jephthah Hand	do	do	....	67,050

HERKIMER COUNTY — SCHUYLER — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
East Schuyler	L. P. Lints, Jr.	East Schuyler	Cheese.	....	103,781
Ruby	D. B. Young	Newport	do	....	96,128
Schuyler Centennial	W. V. Minott	East Schuyler	do	....	88,012
Sterling	C. G. Babcock	Newport	do	....	81,059
West Schuyler	Wm. Budlong & Son	West Schuyler	do	....	161,824
		STARK.			
Bush	Loadwick Springer	Van Hornesville	do	....	77,618
Creamery Corners	John Cramer	Starkville	do	....	40,000
Staring	Gilbert Staring	do	do	....	40,000
Whipple	B. A. Whipple	Van Hornesville	do	....	46,256
		WARREN.			
H. C. Brockway	H. C. Brockway	Richfield	do	....	58,500
Caswell Corners	J. Eckler	Caswell Corners	do	....	10,200
Columbia Center	N. C. Harter	Columbia Center	do	....	100,000
Crain's Corners	T. C. Swift	Jordanville	do	....	48,664
Dividing Ridge	R. G. Starkweather	do	do	....	26,500
Henderson Association	T. C. Swift	do	do	....	51,277
Jordanville	do	do	do	....	56,494
		WINFIELD.			
North Winfield	C. T. Wheeler	North Winfield	do	....	134,000

JEFFERSON COUNTY.

ADAMS.

Adams	Perkins & Thomas	Adams	B. & C.	1,200	130,000
Bridge	D. D. Cool	do	Cheese.		93,327
Maxson	P. S. Maxson	Adams Center	B. & C.	2,037	94,056
North Adams	E. D. Holloway	do	Cheese.		51,580
Talcott Place	H. Fuller	do	do		70,490

ALEXANDRIA.

Bickelhaupt's	A. Bickelhaupt	Redwood	do		37,000
Bickelhaupt's Comb. No. 2	do	do	do		49,465
Bickelhaupt's Comb. No. 3	do	do	do		44,120
Bickelhaupt's Comb. No. 7	do	do	do		37,000
Bickelhaupt's Comb. No. 9	do	do	do		34,714
Bickelhaupt's Comb. No. 12	do	do	do		58,000
Cold Brook No. 2	W. F. Dollinger	Omar	do		67,143
Cold Spring	C. Overacker	Redwood	do		95,636
Columbian	Wm. Kepler	Alexandria Bay	do		44,254
Flat Rock	C. S. Watts	Plesis	do		89,590
Point Vision	R. P. Grant	Clayton	do		50,528
Springer	R. R. Kirkland	Redwood	do		126,938

ANTWERP.

F. X. Baumert	F. X. Baumert & Co.	Antwerp	B. & C.	86,359	1,500,000
Brown Factory Comb	Geo. Gebler	Philadelphia	Cheese.		41,185
Cloverdale	Kyes & Helmer	do	do		78,085
East Antwerp	James Stuart	Antwerp	do		68,700
Gleason Factory Comb. No. 7.	Geo. Gebler	Philadelphia	do		54,034

JEFFERSON COUNTY — ANTWERP — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Hillside	C. O'Brien	Theresa	Cheese.	....	76,717
Riverside	J. P. Carpenter & Son	Ox Bow	do	....	193,246
Spring Valley	W. S. Keyes	do	do	....	135,371
Star	Star Factory Co	Antwerp	do	....	106,829
BROWNVILLE.					
Bay View	Edson Gould	Pillar Point	do	....	86,540
Brownville	Robert Cramer	South Rutland	do	....	41,131
Excelsior	Wm. Smith	Perch River	do	....	55,300
Perry's	L. S. Perry	Limerick	do	....	37,733
Pillar Point Union	M W. Timerman	Dexter	do	....	59,225
CAPE VINCENT.					
Fox Creek	Hentye & Wilcox	Three Mile Bay	do	....	32,343
Warren Settlement	Louise Comaire	Rosiere	do	....	40,175
CHAMPION.					
Champion Village	Asa Loomis	Champion	do	....	93,784
Hadsall & Moore	W. A. Hadsall	Black River	do	....	77,955
McNett Bros	F. H. McNett	Copenhagen	do	....	63,203
O. K	F. A. Knapp	Great Bend	do	....	55,966
South Champion	C. H. Day	South Rutland	do	....	69,400

		CLAYTON.			
Bickelhaupt's Comb. No. 13.	A. Bickelhaupt	Redwood	do	....	51,000
Empire State	R. P. Grant	Clayton	do	....	76,280
Farmers'	do	do	do	....	79,724
Grindstone Island	do	do	do	....	55,528
Line Road	do	do	do	....	73,650
Thousand Island	do	do	do	....	73,206
		ELLISBURGH.			
Belleville	Overton & Co	Belleville	B. & C.	55,431	266,425
Central	Marion Hull	Pierrepont Manor	Cheese.	....	55,314
Fillmore	Fillmore Bros	Woodville	B. & C.	13,847	166,403
Kings	Brayton Salesbury	Pulaski	do	33,000	315,000
Manor	C. F. Calkins	Pierrepont Manor	Cheese.	....	64,846
Rock Spring	L. B. Martin	do	do	....	50,270
Salesbury	Brayton Salesbury	Pulaski	B. & C.	3,856	154,800
Salesbury No. 3	do	do	do	3,890	154,640
E. L. Stone No. 1	E. L. Stone	Mannsville	do	67,877	54,738
Woodville	N. Wood & Son	Woodville	Cheese.	....	50,000
		HENDERSON.			
Henderson	Stock Company	Henderson	B. & C.	8,095	81,772
Henderson Village	E. Fales	do	Cheese.	....	26,629
Mather Bros	S. & W. Mather	Belleville	B. & C.	13,086	102,056
Smithville	Mrs. W. A. Ebbie	Smithville	do	8,400	105,705
		HOUNSFIELD.			
Camp's Mills	C. B. Arnold	Sackett's Harbor	Cheese.	....	75,375
Ontario	A M. Sanford	Adams Center	do	....	58,147
Windmill	C. C. Shipman	East Hounsfield	do	....	57,666

JEFFERSON COUNTY — LE RAY — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Gould	W. S. Cooper	Felt's Mills	Cheese.		39,414
Jefferson Valley	Schell Bros	Evans Mills	do		45,268
Sunny Side	L. A. & A. E. Helmer	do	do		86,297
D. Walrath	D. Walrath	do	do		115,536
		LORRAINE.			
Brow's	M. A. Joyner	Lorraine	do		17,809
Lorraine	Stock Company	do	do		69,000
Maple Grove	A. M. Brown	do	do		53,588
Pitkin	L. S. Pitkin	do	do		53,205
E. L. Stone No. 3	E. L. Stone	Mannsville	B. & C.	424	29,060
Winona	Stock Company	Winona	Cheese.		62,639
		LYME.			
Chaumont	Copeley Bros	Chaumont	do		42,600
		ORLEANS.			
Bickelhaupt's Comb. No 15.	A. Bickelhaupt	Redwood	do		32,716
Bickelhaupt's Comb. No. 16.	do	do	do		50,645
Hill Spring	Stock Company	Omar	do		74,385
Orleans Valley	R. P. Grant	Clayton	do		62,611
Stone Mills Union	Stock Company	Stone Mills	do		50,000

PAMELIA.					
Cloverdale	A. E. Gove	Pamelia 4 Corners	do		61,144
Fair View	Stock Company	do	do		58,006
Pamelia Center	I. E. Gibbs	Watertown	do		64,750
PHILADELPHIA.					
Gebler's	Geo. Gebler	Philadelphia	do		104,046
Hewitt Factory Comb. No. 4	do	do	do		38,900
Holmes Factory Comb. No. 5	do	do	do		50,294
Jersey	Bradford Sterling	Gouverneur	do		57,664
Philadelphia	Wm. Flath.	Philadelphia	do		128,204
Spring	Geo. Flath, Jr	do	do		64,950
Strickland Factory Comb. No. 2	Geo. Gebler	do	do		24,000
Swift Factory Comb. No. 3	do	do	do		50,294
RODMAN.					
A. D. Boyd	A. D. Boyd	Tremaine's Corners	do		69,461
East Rodman	F. P. Dunaway	East Rodman	do		120,368
Kellogg	H. A. Kellogg	Worthville	Butter	44,600	
A. Miller	A. Miller	Adams	Cheese		60,760
North Rodman	Dillin, Gardner & Sill	Dillin	do		105,907
Rodman Village	Milo G. Wilson	Rodman	do		96,450
West Rodman	Perkins & Thomas	Adams	do		100,422
RUTLAND.					
Cascade	G. A. Canfield	Burr's Mills	do		99,076
Eames	H. C. Eames	East Watertown	do		90,577
Parkinson	Parkinson Bros.	Watertown	do		44,262

JEFFERSON COUNTY — RUTLAND — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
B. P. Smith	J. C. Fitzsimmons	Black River	Cheese.	....	45,127
Tylerville	Byron Dickinson	South Rutland	do	....	59,300
Jay W. Waldo	D. A. Goodrich	South Champion	do	....	105,981
E. J. Williams, No. 2	M. A. Stackler	Rutland	do	....	96,164
THERESA.					
Bickelhaupt's Comb. No. 4	A. Bickelhaupt	Redwood	do	....	35,400
Bickelhaupt's Comb. No. 5	do	do	do	....	52,517
Bickelhaupt's Comb. No. 6	do	do	do	....	29,511
Bickelhaupt's Comb. No 10	do	do	do	....	46,700
I. C. Cooper	I. C. Cooper	Theresa	do	....	260,000
J. P. Douglas Home	J. P. Douglas	do	do	....	100,055
Pleasant Valley Comb.	Geo. Gebler	Philadelphia	do	....	34,590
Sardau	S. G. Sardau	Redwood	do	....	35,000
Sprague	A. A. Holmer	do	do	....	25,000
Still	I. C. Cooper	Theresa	do	....	94,369
Tyler Combination	S. W. Tyler	do	do	....	24,499
WATERTOWN.					
E. A. Ayers	Mrs. E. A. Ayers	Watertown	do	....	122,198
E. Ball	H. C. Ball	do	do	....	103,702
Brookside	Smith, Flanders & Co.	Rodman	do	....	95,597
Watertown Valley	Lafayette Polly	Burr's Mills	do	....	91,607

WILNA.

Central	M. Hull	Wilna	do		54,310
Davis Corners	Joseph E. Foulton	Carthage	do		93,069
Drill Well	C. W. Cheney	Sterling Village	do		75,000
Indian River	Lewis B. Gibbs	North Wilna	do		111,315
Spring Brook	John Hill	Natural Bridge	do		36,126
West Carthage	Chas. Burke	Carthage	do		53,218

WORTH.

Bullock	Monroe H. Bullock	Herkimer	do		84,500

LEWIS COUNTY.

CROGHAN.

Champion Spring	Christian Hirschey	Beaver Falls	do		52,109
Clover Valley	O. E. Foley	Carthage	do		55,100
Croghan	Albert Henry	Croghan	do		56,602
Haller	W. A. Haller	Beaver Falls	do		35,568
Indian River	C. Yousey	Indian River	do		22,500
Kirschnerville	N. Keefer	Kirschnerville	do		43,549
Renaux	A. Renaux	Croghan	do		50,000
Swiss Creek	Hiram Gowdy	Lowville	do		75,650

DENMARK.

Copenhagen	Cook & Otis	Denmark	do		147,233
Crown Brand	A. & H. E. Cook	do	B. & C.	17,914	182,474
Harter	P. A. Harter	Copenhagen	Cheese.		27,409
Imperial	W. W. Vorce	do	do		56,641
Rising Star	Cook & Otis	Denmark	do		62,903

LEWIS COUNTY — DENMARK — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Standring	C. A. Austin	Deer River	Cheese.	....	143,170
Star Spring	S. L. Hirschey	Castorland	do	....	41,585
Union Spring	G. A. Blackman	Lowville	do	....	37,500
DIANA.					
Diana	Weeks Bros	Diana	do	....	62,396
Sterling	R. Washburn	Sterling Bush	do	....	53,600
GREIG.					
Independence	Lyman Burdick	Glendale	do	....	34,950
River Dale	A. W. VanArnam	Greig	do	....	30,448
Spring Brook	M. L. Hoffman	Lyon's Falls	do	....	62,396
HARRISBURGH.					
Lanpher	H. B. Lanpher	Copenhagen	do	....	46,351
New Columbia	Geo. F. Butts	Harrisburgh	do	....	92,600
New Model	C. A. Fox	Copenhagen	do	....	54,433
River Street	G. H. Monroe	do	do	....	42,293
Silver Spring	M. E. Petrie	do	do	....	100,120
Valley Dale	W. A. Wheeler	Bellwood	do	....	54,443
West Harrisburgh	do	do	do	....	79,116

HIGH MARKET.

Alpine	William Blum	High Market	do		76,871
Auken	Fred. Auken	do	B. & C.	500	14,000
Dairy Hill	David Miller	Constableville	Cheese.		150,724
Fish Creek	H. G Deis	do	do		62,575
Katsmayer	A. Katsmayer	West Leyden	do		71,605
Legal Tender	Jas. E. McGrath	Turin	do		87,253
Plummer	Geo. Plummer	Constableville	do		80,429
Sins & Bierley	Joseph Sins	West Leyden	do		51,978
West Leyden	M. J. McGrath	Martinsburgh	do		160,000

LEYDEN.

Cloverdale	Alfred Blum	Leyden	do		134,327
Leyden Cheese Association	L. S. Loomis	Locust Grove	do		110,133
Malcolm	D. Karlen	Boonville	do		89,000
Meadow Brook	Uriah Fitch	do	do		65,253
Moose Creek	H. B. Thayer	Leyden	do		97,992
Northam	D. Karlen	Boonville	do		58,000
Baring Brook	Jared S. Loomis	Locust Grove	do		59,387
Spring Hill	F. E. Klossner	Port Leyden	do		83,231

LOWVILLE.

Bowen	O. F. Bowen	Lowville	do		81,139
Eagle	E. G. Graves	do	do		131,525
High Mark	William Fitch	do	do		82,100
Lowville	J. A. Merry	do	do		91,528
Sharp	Wm. C. Spencer	do	do		54,760
Sulphur Spring	Jay H. Searl	do	do		121,553

LEWIS COUNTY — MARTINSBURGH — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Atwell	F. E. Atwell	Martinsburgh	Cheese.	....	30,071
Boston Brand	B. Gontremont	Windecker	do	....	48,708
Gilt Edge	Milton J. Fassett	West Martinsburgh	do	....	64,482
Glendale	Rudolph Regetz	Glendale	do	....	101,746
Gowdy	F. C. Gowdy	West Martinsburgh	do	....	95,972
Hillside	W. S. Benton	New Bremen	do	....	45,000
Maple Ridge	Mrs. T. Mahoney	Martinsburgh	do	....	51,975
Martinsburgh	G. S. Alger	do	B. & C.	4,019	102,738
Roaring Brook	W. E. Garner	East Martinsburgh	Cheese.	....	71,251
Rowsam Brook	C. M. Henry	West Martinsburgh	do	....	48,262
Staring	W. H. Ingersoll	Port Leyden	do	....	62,500
Valley Springs	F. H. Loucks	Lowville.	do	....	62,792
MONTAGUE.					
Forks	J. E. Murphy	Montague	do	....	35,854
•Rector	Morgan Smith	Rector	do	....	42,698
NEW BREMEN.					
Beach Hill	Albert Merz	New Bremen	do	....	27,506
Clover Valley	W. S. Benton	do	do	....	55,793
Cold Spring	C. E. Merz	Croghan	do	....	81,059
Farmers' Choice	W. S. Benton	New Bremen	do	....	84,758

OSCEOLA.

F. S. Chrestien	F. H. Chrestien.	Camden	do	....	86,928
Croniser	Charles Croniser	Florence	do	....	70,000

PINCKNEY.

Ferguson	G. H. Williams.	Barnes Corners	do	....	26,384
New Boston	T. W McGrath.	New Boston	do	....	101,550
Pinckney's Corner	Finn & Schraup.	Pinckney	do	....	71,552
Union	John C. Hardy	Copenhagen	do	....	77,000
E. J. Williams No. 3	Loren D. Fox.	Barnes Corners	do	....	66,410

TURIN.

Carpenter.	John Carpenter.	Turin.	do	....	35,500
Houseville	G. H. Smith	Houseville	do	....	149,750
Petrie	H. A. Petrie.	Turin.	do	....	144,120
Valley	Robert Wittner	Glendale	do	....	91,000
Welsh Hill	E. H. Evans	Turin	do	....	66,484

WATSON.

Union	D. E. Kent	Bushes Landing	do	....	38,140

WEST TURIN.

Grass Valley	J. S. Loomis	Locust Grove	do	....	94,900
A. Katsmayer	A. Katsmayer	West Leyden	do	....	71,615
Kollinsville	James Roberts	Osceola	do	....	96,542
Miller	Michael Heiley.	Constableville	do	....	187,017
Mohawk Hill	Michael Farrel	Utica	do	....	54,604
John Regetz	John Regetz	Constableville	do	....	105,125

LIVINGSTON COUNTY.

GENESEO.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Geneseo	S. J. Ebrod	Geneseo	Butter	54,085	
NUNDA.					
Nunda	Young & Young	Fillmore	Cheese		72,000
PORTAGE.					
Barber	G. F. Barber	Hunt's	Butter	22,260	
Hunt's	Young & Young	Fillmore	Cheese		57,262
Keshequa	Mrs. Sarah Wheeler	Dalton	do		32,792
SPARTA.					
Elgin	V. A. Scott	Scottsburg	Butter	49,000	

MADISON COUNTY.

BROOKFIELD.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Baldwin	A. B. Baldwin	Brookfield	Cheese		70,000
Beaver Creek	Wm. W. Clark	do	do		50,000
Excelsior	Wm. E. Stryker	Poolville	do		65,968

Marsh	C. O. York	Brookfield	do	....	60,866
Mott	Eli S. Brand	Leonardsville	do	....	72,000
South Brookfield	E. A. Sage, agt.	New Berlin	B. & C.	15,454	66,731
Temple	I. A. Wager	North Brookfield	Cheese.	....	80,971
Union	Milton H. Morgan	Brookfield	do	....	88,566
		CAZENOVIA.			
New Woodstock	C. A. Buckingham	New Woodstock	B. & C.	62,144	323,088
New Woodstock Dairy Co.	John Host	do	Butter.	6,000	....
North Cazenovia	Reynolds & Talbott	Cazenovia	Cheese.	....	32,700
No. 9	Wm. C. Sherman	Webster Station	do	....	103,749
		EATON.			
Eaton	Eugene Brown	Eaton	B. & C.	57,766	271,551
Morrisville	C. W. Stone	Morrisville	do	2,296	103,859
		GEORGETOWN.			
Brown Valley	E. W. Brown & Co.	New Berlin	do	8,860	92,458
Stevens	C. G. Stevens	Georgetown Station	Cheese.	....	82,014
		HAMILTON.			
Hubbardsville	Dart & Wallace	Hubbardsville	Butter.	65,000	....
South Hamilton	Dresser & Harris	South Hamilton	Cheese.	....	56,324
		LENOX.			
Crystal Spring	O. J. Tucker	Clockville	do	....	40,684
Dan Ladd's	Dan Ladd	Canastota	do	....	60,654
Lenox Mills	Reynea & Miller	Lenox	do	....	71,000
Oneida Valley	William McAdam	Oneida Valley	do	....	103,356

MADISON COUNTY — LENOX — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Perryville Milk Association	Perryville Milk Association,	Perryville	B. & C.	3,000	60,000
Siloam	A. C. Miller	Siloam	Cheese.	....	200,000
Whitelaw	G. H Ritter	Clockville	do	....	40,000
		MADISON.			
Madison Center	F. Blanding	Hubbardsville	do	....	36,045
		NELSON.			
Erieville	C. E. Maynard	Erieville	B. & C.	22,141	209,972
Paramount	J. P. Davis	Nelson	Cheese.	....	87,247
		SMITHFIELD.			
Peterboro	D. Wolfe	Peterboro	do	....	87,085
		SULLIVAN.			
East Barton	Pennock & Sons	Chittenango	do	....	65,000
Excelsior	George H. Dennis	do	do	....	99,592
Maple Grove	E. Johnson	do	do	....	70,000
Osgood	Stock Company	do	do	....	90,000

MONROE COUNTY.

CLARKSON.

Clarkson	Wm. N. Gallup	Clarkson	Butter.	60,213	....

MENDON.

Honeoye Falls	Elston Hunt	Honeoye Falls	do	84,000	....
Mendon	M. M. Burt	do	Cheese.	....	23,400

OGDEN.

Ogden	J. C. Ross	Spencerport	Butter.	43,492	....

PARMA.

Hilton	A. B. Fraser	Hilton	do	49,443	....

MONTGOMERY COUNTY.

CANAJOHARIE.

Ames	M. M. Miller	Ames	Cheese.	....	85,034
Bowman's Creek	A. G. Detmer	Marshville	do	....	24,600
Buel	C. R. Lane	Buel	do	....	23,887
A. Dunckel	Alfred Dunckel	Fort Plain	do	....	38,567

FLORIDA.

Minaville	A. Walrath	Minaville	do	....	36,550

MONTGOMERY COUNTY — MINDEN — (*Concluded*).

NAME OF FACTORY.	Proprietor or manage.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Brookman's Corners	Wm. Dillenbeck	Fort Plain	Cheese.	....	114,231
Fort Willett	Jacob Zoller	Little Falls	do	....	111,845
Hillsville	D. S. Van Slyke	Hillsville	do	....	88,143
Valley	George Rogers	Salt Springville	do	....	16,760
Van Deusen	J. D. Graves	Fort Plain	do	....	46,065
Zoller	Jacob Zoller	Little Falls	do	....	131,756
MOHAWK.					
Cayadutta	Frederick Lenz	Fonda	do	....	53,975
Mohawk	Daniel Dockstader	Palatine Bridge	do	....	49,389
Nellis	Benjamin Nellis	Fonda	do	....	21,873
Tribes Hill	W. F. Getman	Tribes Hill	do	....	29,202
PALATINE.					
Wm. Dockstader	Wm. Dockstader	Palatine Bridge	do	....	67,204
Nellis	J. A. Nellis	St. Johnsville	do	....	21,843
Palatine Union	P. G. Yost	McKinley	do	....	63,821
Slate Hill	Alva Gray	Ephratah	do	....	15,821
Smith Creek	J. Harvey Smith	Fort Plain	B. & C.	1,793	95,098
Stone Arabia	John Cole	Stone Arabia	Cheese.	....	71,119

ROOT.

H. A. Dievendorf	H. A. Dievendorf	Sprakers	do	....	12,860
Flat Creek	J. Vosburg	Flat Creek	do	....	80,661
Lyker's	John V. Lyker	Lyker	do	....	25,000
Sprakers	Jas. P. Vanevera	Canajoharie	do	....	23,558

ST. JOHNSVILLE.

G. H. Christman	G. H. Christman	St. Johnsville	do	....	98,059

NIAGARA COUNTY.

LOCKPORT.

Rapids	Wm. F. Carl	Rapids	Butter.	21,253	....

NEWFANE.

Hess Road Elgin	F. H. Ferguson	Appleton	do	25,650	....

PORTER.

Ransomville	G. D. Carmer	Ransomville	do	13,000	....

ROYALTON.

Middleport	Godfrey Emberly	Middleport	do	25,650	....

WILSON.

Wilson	H. Sanford	Wilson	do	17,072	....
Wilson No. 1	H. E. Burnham	Randall Road	Cheese.	....	20,187

ONEIDA COUNTY.

ANNSVILLE.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Cole Hill	J. Karlen	Rome	Cheese.		36,196
Greggains	Wm. Greggains	Glenmore	do		35,845
Mullin	James Mullin	do	do		54,127
Mullin Bros	do	do	do		70,000
Taberg	Geo. J. Hass	Taberg	do		67,508
Taberg Limburg	Martin Hasselbeck	do	do		59,000
AUGUSTA.					
Augusta Valley	John Skerritt	Vernon Center	do		51,480
AVA.					
Blue Brook	Roscoe C. Coon	Ava	do		85,306
G. Castle	H. D. Morehouse	do	do		49,763
West Ava	Pearl E. Adams	do	do		85,568
BOONVILLE.					
Ballou	Ellis Ballou	Boonville	do		25,500
Hawkinsville	C. Lewahlen	Hawkinsville	do		39,644
Jackson Valley	D. Karlen	Boonville	do		80,000
Karlen	do	do	B. & C.	20,000	85,000

Katsmayer	A. Katsmayer	West Leyden	Cheese	....	72,000
Porter	D. Karlen	Boonville	do	....	45,000
Spring Brook	W. J. McComb	do	do	....	64,000
Sweet Violet	David Carlin	do	do	....	44,000
Union	Mrs. P. G. Yerdon	Camden	do	....	35,546
Wheeler	C. Lewahlen	Hawkinsville	do	....	27,477
Williams	D. Karlen	Boonville	do	....	25,000
Willow Valley	Godfrey Teuscher	Alder Creek	do	....	30,304

BRIDGEWATER.

Eldred	Z. Eldred	Bridgewater	do	....	139,562
North Bridgewater	Andrew Knauer	North Bridgewater	B. & C.	705	30,640

CAMDEN.

Becker	Fred. P. Becker	Camden	Cheese.	....	70,000
A. Cornish	A. Cornish	do	do	....	40,000
Hillside	Melvin Sergeant	do	do	....	45,000
West Camden	E. R. Sly	West Camden	do	....	45,000

DEERFIELD.

Deerfield Creamery	Wilkinson, Gaddis & Co.	Newark, N. J	B. & C.	12,313	97,000
Deerfield Center Creamery	J. J. Donnafield	South Trenton	Cheese.	....	99,102
Maple Grove	A Grant Blue	North Gage	B. & C.	600	8,000
North Gage	P. Welch	do	Cheese.	....	61,000
West Canada Creek	Ivie Baird	Poland	B & C.	3,000	175,000

FLORENCE.

A. Christian	C. A. Bartell	Florence	Cheese.	....	118,447
Cornish	A. Cornish	Camden	do	....	55,000
John F. Hennessey	John F. Hennessey	East Florence	do	....	31,000
Waterbury	James Kirkland	Florence	do	....	88,641

ONEIDA COUNTY — FLOYD — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Floyd Corners	E. D. Rowlands	Floyd Corners	Cheese.	....	18,940
Floyd Hill	Seward Mowers	East Floyd	B. & C.	6,130	39,956
Roscup	George Roscup, Jr	do	do	500	30,000
G. D. Thomas	G. D. Thomas	Camroden	Cheese.	....	155,531
		FORESTPORT.			
McGuire	D. R. Griffith	Forestport	do	....	38,700
		KIRKLAND.			
Kirkland	J. B. Foot	Kirkland.	Butter.	183,753	....
		LEE.			
Auken's	Mrs. C. Auken	Lee Center.	Cheese.	....	37,500
Casler & Brown	Casler & Brown	West Branch.	do	....	54,000
Delta	C. N. Bathreck	Delta	do	....	60,213
Holsinger	Samuel Krebs	Lee Center	do	....	28,000
Martin Hasselbeck	Martin Hasselbeck	do	do	....	60,000
Kenyon	Frank Karlen	do	do	....	49,435
Krebs	Samuel Krebs	do	do	....	25,000
Lee Center	H. M. Park	do	do	....	30,000
Lee Corners	Ernas Grimes	Stokes	do	....	20,000
Lee Corners	J. Karlen	Rome	do	....	45,500

Lee Line	do	do	do	....	75,000
Sand Hill	Gotfried Liebie	West Branch	B. & C.	150	30,000
Saulspaugh	C. H. Saulspaugh	Rome	Cheese.	....	44,400
Jacob Saur	Jacob Saur	Point Rock	do	....	25,000
Walters	C. H. Walters	do	do	....	50,346
West Branch	D. Karlen	West Branch	do	....	90,000
West Branch Limburg	do	do	do	....	156,272
West Lee Center	Martin Hasselbeck	Lee Center	do	....	58,000
		MARCY.			
Marcy Center	Geo. R. Wright	Marcy	do	....	84,072
River Road	D. J. Grace	Maynard	do	....	16,000
Stittville	W. H. Brush	Stittville	B. & C.	22,500	177,820
		PARIS.			
A. S. King	A. S. King	Norwich Corners	Cheese.	....	15,243
		NEW HARTFORD.			
Cold Spring Creamery	Risley Bros	New York Mills	B. & C.	20,000	10,000
		REMSEN.			
B. H. Kent	P. O. Jones	East Steuben	Cheese.	....	105,169
Mitchell Union	J. Edgar Mitchell	Remsen	do	....	47,041
		ROME.			
Rathbun	Charles Rathbun	Verona Mills	do	....	87,253
Ridge Mills	Robert McAdam	Ridge Mills	do	....	58,942
Rome Association	Crowell & Auries	do	do	....	50,000
Stanwix	J. Karlen	Rome	do	....	30,000

ONEIDA COUNTY — SANGERFIELD — (*Concluded.*)

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Kellogg	E. O. Coon	Sangerfield	Cheese	....	37,000
STEUBEN.					
North Steuben	N. H. Folts	North Steuben	do	....	61,517
Steuben Association	J J. Yuger	Steuben	do	....	151,570
Steuben Center	Palmer C. Mills	do	do	....	45,929
R. E. Thomas	Jones & Hughes	Alder Creek	do	....	87,611
TRENTON.					
Holland Patent	A. S. & J. C. Bagg	Holland Patent	B. & C.	26,452	167,064
Home	do	do	do	24,131	170,325
Kelly Tract	do	do	do	12,592	88,825
South Trenton Creamery	Wilkinson, Gaddis & Co.	Newark, N. J	do	16,420	109,579
Trenton	F. P. Bagg	Holland Patent	do	19,264	125,605
Willow Grove	Ivie Baird	Trenton	do	5,500	160,814
VERNON.					
Cream	A. N. Spurr	Vernon	Cheese.	....	40,000
Red Brook	H. E. Blanchard	do	do	....	160,000

		VERONA.			
Doxtater	F. H. Christian	Verona	do	....	55,057
Fitch & Bacon	W. E. Golly	do	do	....	59,281
G. Merry	G. Merry	do	do	....	168,043
New London	J. J. Denn	New London	do	....	85,674
V. & V.	S. J. Burleigh	Verona	do	....	32,518
Verona	F. J. Merry	do	do	....	35,390
Verona Landing	Mrs. T. Breckenridge	Higginsville	do	....	150,000
		VIENNA.			
Blossvale	F. W. Chrestian	Camden	do	....	61,168
Freeman & Blasier	Freeman & Blasier	Vienna	do	....	96,389
North Bay	Nicholas Van Horne	North Bay	do	....	60,000
West Vienna	J. H. Meays	West Vienna	do	....	42,349
		WESTERN.			
S. Auken	S. Auken	Westernville	do	....	22,500
Seth Cornish	G. A. Anderegg	Delta	B. & C.	200	18,000
Farmers'	E. D. Franklin	North Western	Cheese.	....	60,817
Mullen Hill	Charles A. Evans	Delta	do	....	47,222
Porter	C. W. Porter	Westernville	do	....	63,405
South Western	C. D. Parsell	North Western	do	....	84,437
Sporie Limburg	Chas. Sporie	Big Brook	do	....	25,908
F. T.	Fred. Teuscher	Delta	do	....	60,000
Walsworth	David Blum	North Western	do	....	60,000
Westernville	John McCurn	Delta	do	....	100,000
		WESTMORELAND.			
Hecla	T. J. Olney	Hecla	do	....	48,446
Lowell	T. J. Brill	Lowell	do	....	180,000

ONONDAGA COUNTY.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
CICERO.					
Cicero	Dennis Smith	Cicero	Cheese.	....	34,913
Loomis	A. J. Loomis.	do	do	....	90,000
ELBRIDGE.					
Elbridge	George F. Pitchard	Elbridge	B. & C.	6,000	12,606
FABIUS.					
Fabius	H. H. Clark	Fabius	do	240,000	700
LYSANDER.					
Baldwinsville	Garett & Snell	Baldwinsville	Butter.	60,648	....
MANLIUS.					
North Manlius	James W. Miller	North Manlius	Cheese.	....	82,957
POMPEY.					
Clover Leaf	Charles Hunt	Delphi	Butter.	43,954	....
Pleasant Valley	J. J. Howe	do	Cheese.	....	32,146
Pompey Star	O. S. Robinson	Fabius	do	....	55,094

ONTARIO COUNTY.

MANCHESTER.

Crystal Springs	J. W. Parker	Port Gibson	Butter.	65,000	....
Sanitarium	A S. Cotton	Clifton Springs	do	24,890	....

SENECA.

Stanley	Samuel A. Fink	Stanley	do	60,000	....

ORLEANS COUNTY.

KENDALL.

Morton	W. Defendorf	Morton	Cheese.	....	31,678

MURRAY.

Murray	Fuller & Clark	Murray	do	....	87,920

OSWEGO COUNTY.

ALBION.

Dugway	T. Daney	Dugway	do	....	53,000
Henderson	W. K. Haggerty	Altmar	do	....	70,000
Howardsville	C. P. Burch	Howardsville	do	....	55,590
Reno	Fred. Leno	Albion Center	do	....	24,981

AMBOY.

Amboy Center	Robert Faile	Amboy Center	do	....	106,697
Hess	A. S. Caster	West Amboy	do	....	78,671

OSWEGO COUNTY — BOYLSTON — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Le Clair	F. P. Le Clair	Lacona	Cheese.	....	92,630
CONSTANTIA.					
Bernhard's Bay	A. Todd	Bernhard's Bay	do	....	33,000
GRANBY.					
Bowen's Corners	W. H. Keller	Bowen's Corners	do	....	116,832
Granby Center	Cusack Bros	Granby Center	do	....	57,628
Mill Brook	W. E. Hall	North Hannibal	do	....	25,952
North Granby	E H. Hall	North Granby	do	....	70,129
C. C. Wilcox	C. C. Wilcox	Oswego Falls	Butter.	10,975	....
HANNIBAL.					
Hannibal Factory Co	E. B. Tucker	Hannibal	Cheese.	....	54,914
South Hannibal	Trumble & Palmer	South Hannibal	do	....	120,000
HASTINGS.					
Central Square	Peter F. Borgrol	Central Square	do	....	51,980
Hastings	C. L. Jennings	Hastings	do	....	60,100
Mallory	Jaret Mallory	Mallory	do	....	54,000
Oneida River	P. Burlis	Caughdenoy	do	....	60,000

		MEXICO.			
Colosse	Mrs. M. N. Pach	Colosse	do	....	105,000
Dewey	Nathan Kimball	Mexico	do	....	157,044
Empire	G. B. Cusack	Clifford	do	....	105,000
Farmers	Walter Travor	Mexico	B. & C.	1,268	46,610
Stone Quarry	John Pifer	Arthur	Cheese.	....	140,000
Union Square	Geo. B. Vanderwalker	Union Square	do	....	89,380
John M. Weeks	J. M. & E. M. Weeks	Prattham	do	....	90,239
		NEW HAVEN.			
Eagle	A. H. Snell	Mexico	do	....	49,084
New Haven Mfg. Association	S. O. Willmarth	New Haven	do	....	113,196
Porter	Geo. B. Porter	do	do	....	38,000
		ORWELL.			
McKinney	A. C McKinney	Orwell	do	....	70,184
Molino	Homer M. West	do	do	....	71,000
Stevens	Allen Stevens	do	do	....	45,206
		PALERMO.			
Palermo	D. H. Trimble	Palermo	B. & C.	1,500	115,000
Peet's Corners	A. Sauter	East Palermo	Cheese	....	85,000
		PARISH.			
Parish	Charles Casler	Parish	do	....	85,413
Parish Center	Wm. F. Miller	Wrightson	do	....	46,027

OSWEGO COUNTY — RICHLAND — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Castor	Geo. L. Castor	Pulaski	B. & C.	4,270	131,175
Holmes	Walter C. Holmes	do	do	3,391	235,804
Mayflower	Andrew Ott	Redfield	Cheese.	....	150,000
Mowry	Geo. L. Castor	Daysville	do	....	52,537
South Richland No. 1	J. J. Miller	South Richland	do	....	155,000
South Richland No. 2	do	do	B. & C.	900	105,000
		SANDY CREEK.			
Finster	James Welch	Lacona	Cheese.	....	74,875
Ingersol	E. M. Ingersol	do	do	....	98,896
Salisbury	Brayton Salisbury	Sandy Creek	B. & C.	1,800	212,000
Willow Brook	M. E. Shoecraft	do	Cheese.	....	63,000
		SCHROEPPEL.			
Gilbert's Mills	C. H. Burlis	Gilbert's Mills	do	....	54,576
Pennellville	C. T. Barneskey	Pennellville	B. & C.	985	139,595
Phoenix	A. P. Merriam	Phoenix	Cheese.	....	292,702
		SCRIBA.			
Black Creek	Charles Porter	Scriba	do	....	26,052
East Scriba	Burdich estate	East Scriba	do	....	24,831

North Road	O. A. Griswold	Scriba	do	....	41,432
North Scriba	John Donnelly	North Scriba	do	....	83,531
Oswego	Wales Bros	Lansing	Butter.	7,000	....

VOLNEY.

Battle Island	Ida Foster	Fulton	Cheese.	....	81,574
Druce	Mrs. C. Brown	North Volney	do	....	18,753
W. W. Loomis	W. W. Loomis	Ingalls Crossing	do	....	154,365
Mount Pleasant	Trimble & Palmer	Palermo	do	....	80,000
Volney Center	G. D. Trimble	do	do	....	80,000

WEST MONROE.

May Flower	H. E. Potter	West Monroe	B. & C.	5,172	4,396
West Monroe Star	J. W. Mutter	do	Cheese.	....	64,015

WILLIAMSTOWN.

Greene Johnson	Greene Johnson	Williamstown	do	....	165,000
Ricard	D. E. West	Ricard	do	....	41,434

OTSEGO COUNTY.

BURLINGTON.

Holdredge	R. G. Tuller	West Burlington	do	....	57,030
R. C. Huestis No. 1	Erastus Hainor	Burlington Flats	do	....	50,000
D. C. Johnson	D. C. Johnson	do	do	....	123,992
Parks	G. C. Pashley	Burlington	do	....	85,000
Patten	F. B. Rainey	Hartwick	do	....	67,133
Star	George F. Burke	West Burlington	do	....	99,784
E. W. Wright No. 10	E W. Wright	Burlington Flats	do	....	57,286

OTSEGO COUNTY — BUTTERNUTS — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Gilbert	Gilbert, Root & Co	Gilbertsville	Cheese.	....	80,107
Highland	A. L. & J. M. Hakes	do	B. & C.	15,300	42,505
Hillington	Mrs. A. Thompson	do	Cheese.	....	55,581
Maple Grove	E. S. Niles	Maple Grove	Butter.	50,785	....
Root	Gilbert, Root & Co	Gilbertsville	Cheese.	....	70,419
Shamrock	C. F. Freer	do	do	....	57,012
CHERRY VALLEY.					
J. H. Harrison	J. H. Harrison	Cherry Valley	do	....	60,000
EDMESTON.					
Brockway's Edmeston	H. C. Brockway	Richfield	do	....	95,651
N. A. Marcy	E. W. Wright	Burlington Flats	do	....	63,341
EXETER.					
Brainard's Corners	H. C. Brockway	Richfield	do	....	74,270
H. C. Brockway & Son	H. C. Brockway & Son	do	do	....	119,025
Brockway's Wilmarth	H. C. Brockway	do	do	....	69,678
Exeter	E. S. Niles	Maple Grove	Butter.	15,768	....
J. J. Rider's	John J. Rider	Schuyler Lake	Cheese.	....	81,606
Schuyler Lake	E E Sutherland	do	do	....	61,000
West Exeter	H. C. & Geo. T. Brockway	Richfield	do	....	118,620

HARTWICK.

Hartwick Seminary	Gilbert, Root & Co.	Gilbertsville	do	....	71,796
South Hartwick	do	do	do	....	97,006
White House	R. D. Lamb	Hartwick	do	....	52,000

LAURENS.

Laurens	C. P. Root	Gilbertsville	do	....	28,869
West Laurens	do	do	Butter.	46,427	....

MARYLAND.

Elk Creek	C. L. Murphy	Elk Creek	Cheese	....	57,464

NEW LISBON.

E. E.	R. G. Peet	Mt. Vision	do	....	40,142
Fall Brook	C. P, Root	Gilbertsville	Butter.	17,355	....
L. W. Gregory	L. W. Gregory	Welcome.	Cheese.	....	44,000
S. C. Gregory	Gilbert, Root & Co.	Gilbertsville	do	....	105,310
Lena	E. R. Hunt	Morris.	do	....	60,323
New Lisbon	C. P. Root	Gilbertsville	do	....	44,137

MIDDLEFIELD.

Clarksville	Charlie Fitch	Middlefield	do	....	38,000
Hubbell Hollow	L. A. Chase & Co.	Lentsville	do	....	70,100
Lentsville	W. L. Wicks	do	do	....	65,000
Middlefield	F. F. O'Connell	Middlefield.	do	....	39,829
Stanley	Geo. Neal	Cherry Valley	do	....	6,651

OTSEGO COUNTY — MORRIS — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Dimmick Hollow	Gilbert, Root & Co	Gilbertsville	Cheese.	....	98,045
Harris	do	do	do	....	51,509
Morris	E. P. Hunt	Morris	B. & C.	5,000	96,000
		ONEONTA.			
Oneonta	Fred. Taber	Oneonta	Butter.	38,700	....
Wilber Lake	J. M. Taylor	do	Cheese.	....	34,417
		OTEGO.			
Briar Creek	Fred. E. Tabor	Wells Bridge	Butter..	42,078	....
Cold Spring	S. A. Shepherd	Otego	do	52,223	....
Flax Island	C. P. Root	Gilbertsville	Cheese.	....	25,831
Silver Spring	A. W. Brumaghim	Otsdawa	Butter.	63,682	....
		OTSEGO.			
German	August Aufmuth	Fly Creek	Cheese.	....	50,000
J. P. Kinney	Mrs. J. P. Kinney	Snowden	do	....	31,090
W. H. Sponenbergh	W. H. Sponenbergh	Fly Creek	do	....	60,000
Wileytown	L. P. Young	Oaksville	do	....	33,926
Fred. L. Young	Fred. L. Young	do	do	....	40,695

PLAINFIELD.

H. C. Brockway & Son No. 8	H. C. Brockway & Son	Richfield	do	....	127,076
Lloydsville	K. J. Wing	Unadilla Forks	do	....	36,650
E. W. Wright No. 2	E. W. Wright	Burlington Flats	do	....	98,697
E. W. Wright No. 5	do	do	do	....	90,651
E. W. Wright No. 8	do	do	do	....	52,708

RICHFIELD.

Brockway's Hyder Creek	H. C. Brockway	Richfield	do	....	59,000
H. C. Brockway's No. 1	do	do	B. & C.	543	88,900
H. C. Brockway's No. 3	do	do	Cheese.	....	51,565
Hyder No. 4	E. J. Parker	do	do	....	32,840
Joslyn	H. C. Brockway	do	do	....	90,682

SPRINGFIELD.

East Springfield	Chas. C. Brownrigg	East Springfield	do	....	52,725
Springfield Center	Wilkinson, Gaddis & Co.	Newark, N. J	B. & C.	17,000	120,000
L. D. Young	L. D. Young	Warren	Cheese.	....	62,682

UNADILLA.

Rogers Hollow	York & Brown	Unadilla	Butter.	9,090	....
Unadilla Center	do	do	B. & C.	32,000	18,000
Wells Bridge	do	do	Butter..	37,400	....

WESTFORD.

Westford	C. E. McRorie	Westford	Cheese.	....	69,380

RENSSELAER COUNTY.

BRUNSWICK.

NAME OF FACTORY.	Proprietor or manager.	Post office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Brunswick	L. B. Thurston	Eagle Mills	Butter	109,270	....

SCHAGHTICOKE.

NAME OF FACTORY.	Proprietor or manager.	Post office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Schaghticoke Union	J. B. Baucus	Schaghticoke	do	110,319	.. ..

ST. LAWRENCE COUNTY.

BRASHER.

NAME OF FACTORY.	Proprietor or manager.	Post office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Bell	Bell Bros	Brasher Falls	do	75,958	....
Church	E. Church	do	do	28,409	....
Excelsior	R. W. Smith	Brasher Iron Works	do	16,292	....
Grow's	S. G. Grow	Hogansburgh	do	68,000	....
Helena	Hall & Lantry	Helena	do	122,246	....

CANTON.

NAME OF FACTORY.	Proprietor or manager.	Post office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Apple Grove	W. A. Aldons	Canton	B. & C.	12,300	152,750
Carlton Village	John Quinn	do	do	40,888	363,088
Crescent	G. A. Moore	Crary's Mills	Butter	69,527	....
Faville	H. L. Western	Canton	Cheese	....	87,500
Highland	C. F. Woods	do	do	....	112,182

Jerusalem	J. Lincoln & Sons	do	do	....	99,988
Langdon Spring	F. H. & T. C. Leonard	Crary's Mills	Butter	237,777	....
Rensselaer Falls	H. L. Grant	Rensselaer Falls	B. & C.	12,192	223,350
Settlement	W. E. Brainard	Canton	Cheese.	....	121,189
South Canton	Lewis & Shannon	do	B. & C.	111,032	55,215
West Canton	A. J. Gilson	Rensselaer Falls	Cheese.	....	111,269

COLTON.

Wildwood	Brown & Russell	Colton	do	....	71,822

DE KALB

Biche	F. C. Biche	Bigelow	do	....	109,808
Brees	Wm. Burlingame	Richville	do	....	125,000
Cow Path	M. J. Johnson	De Kalb Junction	do	....	57,170
Cheshire	H. W. Overacher	Canton	do	....	165,000
East De Kalb	G. A. La Lone	De Kalb Junction	do	....	137,796
Howard	H. L. Grant	Rensselaer Falls	do	....	136,616
Maplewood	Garner, Murphy & Co	No. 55 Chatham St., Boston, Mass.	B. & C.	22,626	236,138
Richville	R. Stevenson	Richville	Cheese.	....	192,900
River Road	C. Royce	do	do	....	62,500
Scofield	J. L. Wood	De Kalb Junction	do	....	133,191

DE PEYSTER.

De Peyster	C. E. Griffin	De Peyster	do	....	167,000
De Peyster No. 2	do	do	do	....	95,000
Fish Creek	——— McCadam	Edenton	do	....	160,975
Royal	S. N. Rickett	De Peyster	do	....	155,000
West Howard	J. S. Holland	do	do	....	92,422

ST. LAWRENCE COUNTY — EDWARDS — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Bellville	E. A. Sheffner	Edwards	B. & C.	6,729	114,376
Edwards Village	A. P. Brown	do	Cheese.	....	225,150
Pleasant Valley	G L. Bartlett	do	do	....	69,722
		FINE.			
White Clover	A. M. Buell	Fine	do	....	30,400
		FOWLER.			
Fowler	Huntley Bros.	Fowler	Butter.	55,722	....
Hailesborough	G. J. Bowman	Hailesborough	do	90,990	....
Island Branch	E. L. Mills	Gouverneur	Cheese.	197,842	....
West Fowler	B. Sterling	do	do	103,809	....
		GOUVERNEUR.			
Cream of the Valley	A. Overacker	Gouverneur	do	....	200,000
Crystal Spring	G. McLeod	do	do	....	80,000
East Gouverneur	W. A. Freeman	do	do	....	100,000
Elmdale	H. F. Smith	Elmdale	do	....	102,640
Gouverneur No. 1	G. W. Cameron	Gouverneur	do	....	144,124
Gouverneur Village No. 33	J. F. Hodgkins	do	do	....	111,118
Johnstown Street	G. Gebler	Philadelphia	do	....	55,446
Little Bow	G. Cameron	Gouverneur	do	....	166,500

Osborne Lake	Fred. Green	do	do	....	54,340
South Gouverneur	G. B. Sheldon & Son	do	B. & C.	33,214	30,571
Sprague	J. Dalton	do	Cheese.	....	113,152
		HAMMOND.			
Bickelhaupt's Combination	A. Bickelhaupt	Redwood	do	....	80,597
Calaboga	E. A. Grey	South Hammond	do	....	50,414
Hammond	A. A. Holmes	Redwood	do	....	48,000
Marvin Hill	Moore & Johnson	North Hammond	do	....	100,313
North Hammond	F. H. Fitch	do	do	....	102,547
Norton	A. Norton	South Hammond	do	....	44,620
1000 Island	D. F. Babcock	Chippewa Bay	do	....	73,307
		HERMON.			
Elm Grove	Pickard & Baker	Hermon	do	....	196,333
Marshville	C. F. Place	do	do	....	142,367
Rose Bud	L. J. Knox	do	Butter.	155,230	....
South Hermon	G. L. Bush	Gouverneur	Cheese.	....	128,867
West Hermon	R. Morrow	Bigelow	do	....	115,810
		HOPKINTON.			
Cold Spring	S. H. Sanford	Hopkinton	Butter.	52,775	....
Falkner	E. H. Falkner	Parishville	do	31,290	....
Fort Jackson	R. D. Hodgkins	Fort Jackson	do	157,105	....
Lyde Brook	C. H. Moulton	Hopkinton	do	74,732	....
		LAWRENCE.			
Day's	M. W. Day	Nicholville	do	17,000	....
Deer River	W. S. Jenkins	do	do	68,109	....
Eagle	D. E. Sanford	do	do	52,000	....
Lawrenceville	L. L. Deney	Lawrenceville	do	83,285	....
Merchant Street	Wagstaff Bros	do	do	128,197	....

ST. LAWRENCE COUNTY — LISBON — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Alpha	E. C. Gray	Morley	Butter.	46,000	....
Centennial	J. R. Middlemast	Lisbon	do	32,240	....
Cold Spring	C. B. Right	Lisbon Center	do	40,093	....
East Lisbon	J H. Foster	Flackville	Cheese.	....	80,600
Excelsior	H. G. Mayne	Lisbon Center	Butter.	53,814	....
Flackville	Mrs. M. A. Fuller	Canton	Cheese.	....	40,000
Lisbon Center	W. H. Middlemast	Lisbon Center	Butter.	63,466	....
Lisbon Valley	M. L. Speer	do	do	49,781	....
Meservey	H A. Murdia	Morley	do	29,854	....
North Lisbon	J. O Speer	Boice	do	69,226	....
Spaulding	J. E. Beswick	Morley	do	50,874	....
Sunrise	W. T. Thornhill	Flackville	Cheese.	....	92,614
Union	W. Middlemast	Madrid	Butter.	43,325	....
West Lisbon	W. D. Porteous	Ogdensburg	do	47,233	....
LOUISVILLE.					
Old Homestead	Brown Bros.	Louisville Landing	do	23,078	....
Willson's	M. E. Willson	Louisville	do	188,875	....
MACOMB.					
Brasie Corners	E. C. Curtis	Brasie Corners	Cheese.	....	176,203
Clover Hill	W. F Morris	Pope's Mills	do	....	85,090

Cold Spring	E. A. Hurst	Macomb	do	....	86,797
Griffith	S J. Morris	Pope's Mills	do	....	115,820
Hickory Lake	W. P. Beardslee	Macomb	do	....	74,350

MASSENA.

Maple Leaf	J. S. Tobin	Nullekoches, Ont., Can.	do	....	43,693
Massena Center	Wm. C. Hammelton	Massena Center	Butter.	106,307	....
Onyx	Simpson, McIntire & Co.	Massena	do	672,391	....
Riverside	H. F. Gallinger	Mille Roche, Ont., Can.	Cheese.	....	11,425
St. Lawrence	Z. B. Carter	Massena	Butter.	52,327	....
Town Line	D. C. Erwin	do	do	95,233	....

MORRISTOWN.

Black Lake	P S. Derbysura	Cedars	Cheese.	....	55,275
Brier Hill	Young & McAdam	Brier Hill	do	....	124,240
Center	J. J. Farrell	Morristown	do	....	107,000
St. Lawrence	H. J. Greer	Brier Hill	do	....	132,250
Silver Gems	Poulin & Davis	Edwardsville	do	....	140,720

MADRID.

Madrid System	W. R. Byington & Co.	Madrid	Butter.	300,000	....

NORFOLK.

Village System	W. R. Byington & Co.	Madrid	do	150,000	....

ST. LAWRENCE COUNTY — OSWEGATCHIE — (*Continued*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Elm Grove	C. F. Jones	Heuvelton	Cheese.	....	100,080
Fairview	F. Caddill	do	do	....	87,429
Frontier	William Lang	Ogdensburg	do	....	71,824
Morning Star	Foley & Warren	do	do	....	140,663
Oswegatchie	John Hays	do	do	....	124,120
		PARISHVILLE.			
Allen's Falls	Crouch & Bell	Allen's Falls	Butter.	16,005	....
Highlands	D. J. Terise	Parishville	do	22,600	....
Parishville Center	E. N. Taylor	Parishville Center	Cheese.	....	40,445
West Parishville	N. W. Jefferson	West Parishville	do	....	60,000
		PIERREPONT.			
Pierrepont Hill	J. W. Coon	Pierrepont	B. & C.	59,303	39,053
West Pierrepont	G. W. Ellsworth	West Pierrepont	Cheese.	....	85,600
		PITCAIRN.			
Jenney Creek	W. Wing	Pitcairn	do	....	32,620
Maple Grove	William Lumley	East Pitcairn	do	....	47,500

POTSDAM.

Empire State	Lewis Bros	West Potsdam	Butter	209,311	....
Five Corners	E. N. Chappel & Co	Potsdam	do	92,163	....
Grass River	R. M. Lawrence	Buck's Bridge	do	70,342	....
Hewittville	Bradley & Chapman	Potsdam	do	168,517	....
Potsdam	H. N. & N. E. Clark	do	Cheese	....	200,000
Racquette Valley	W. L. Stevens	do	do	....	59,162

ROSSIE.

Bickelhaupt Comb. No. 8	A. Bickelhaupt	Redwood	do	....	61,083
Bickelhaupt Comb. No. 11	do	do	do	....	36,280
Dupontville	C. J. Shoulette	Rossie	do	....	113,007
Hodgkin	John H. Berry	Spragueville	do	....	139,212
Neuning	Joe Neuning	Rossie	do	....	60,348
Rossie	J. H. Shoulette	do	do	....	67,805
Scotch Settlement	Peter Weber	do	do	....	100,500
Somerville	J. W. Marshall	Somerville	do	....	137,054
Steele's Corners	Bell & Fuller	Spragueville	do	....	101,420
Wegatchie	Frank Northup	Wegatchie	do	....	152,140

RUSSELL.

DeGrasse	Andrew Negus	DeGrasse	do	....	17,685
Orange	C. F. Clark	North Russell	do	....	192,135
Plumb Creek	C. A. Boyce	South Russell	do	....	60,000

STOCKHOLM.

Buckton	H. R. Courser	Buckton	Butter	56,250	....
Elliott	K. E. Elliott	do	do	38,352	....
Gray	C. A. Chellis	Winthrop	do	30,811	....

ST. LAWRENCE COUNTY — STOCKHOLM — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Hayes & Holmes	Smith & Wadsworth	West Stockholm	Butter.	54,000	....
Richdale	Wm Wadsworth & Son	North Stokholm	do	38,000	....
Riverside	M. H. Fenner	Southville	do	30,611	....
St. Regis Valley	St. Regis Valley Cr'y Co.	West Stockholm	do	59,937	....
Southville	L. R. Nye	Converse	do	157,541	....
Southville	M. H. Fenner	Southville	Cheese.	....	9,983
WADDINGTON.					
Brandy Brook	Wm. S. Dickerson	Waddington	Butter	71,337	....
Champion	T. H. Rutherford	Madrid	do	96,152	....
Crapser Island	E. S. Crapser	Waddington	do	118,478	....
Ogden Island	Crapser Bros	do	do	153,620	....
Wagner	G. C. Wagner	Madrid	do	44,893	....
WINTHROP.					
Winthrop	A. J. Lamb	Winthrop	do	125,000	....

SARATOGA COUNTY.

BALLSTON.

Ballston Center	Robert O. Davis	Ballston Center	Cheese.	....	48,061

		HALFMOON.			
Union Creamery Association	Fayette Baker	Mechanicville	Butter.	55,073	....
		SARATOGA.			
Saratoga	E. E. Baker	Grangerville	do	138,000	....
		SCHENECTADY COUNTY.			
		DUANESBURGH.			
Mariaville	David W. Walpole	Mariaville	Cheese.	....	18,129
		PRINCETOWN.			
Princetown	Walter Rickmyer	Rynex Corners	do	....	20,255
		SCHUYLER COUNTY			
		DIX.			
Beaver Dams	Jesse and Eliza Putman	Beaver Dams	do	....	67,385
		ORANGE.			
Sugar Hill	C. S. Putman	Sugar Hill	do	....	48,812
		STEUBEN COUNTY.			
		ADDISON.			
Addison	Howell Creamery Co	Addison	do	....	13,000

STEUBEN COUNTY — AVOCA — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Wallace	I. F. Barnes	Wallace	Cheese	....	28,848
BATH.					
Kanona	Henry Dillenbeck	Kanona	do	....	12,886
CANISTEO.					
Bennett's Creek	W. C. Bassett	Bennett's Creek	do	....	75,714
CATON.					
Caton	C. E. Bower	Caton	Butter	30,000	....
CORNING.					
White's	William H. Thurber	Corning	do	25,000	....
GREENWOOD.					
Cloverdale No. 11	O. H. Snyder	North Fork, Pa	Cheese	....	67,000
Greenwood	George M. Stephens	Greenwood	do	....	88,296
HARTSVILLE.					
Call Hill	D. A. Oakes	Purdy Creek	do	....	60,000

		CITY OF HORNELLSVILLE.			
Hornellsville	Hornell Creamery Co.	Hornellsville	B. & C.	2,050	60,000
Willett's	W. H. Willett	do	Butter.	108,955	....
		HOWARD.			
Howard	Bennett & Glover	Howard	B. & C.	3,600	40,000
Pond	L. Spaulding	do	Cheese.	....	68,276
H. Spaulding	H. Spaulding	do	do	....	37,375
		JASPER.			
Drake	John F. Stephens	Jasper	do	....	35,069
Limebrook No. 3	T. J. Carmody & Co.	Cuba	do	....	90,000
West Jasper	N. J. Searl	Jasper	do	....	40,000
		PRATTSBURGH.			
Columbia Dairy Farm	N. S. Wilspaugh	Prattsburgh	Butter.	6,000	....
Maple Grove	W. B. Pratt	do	do	3,210	....
		TROUPSBURGH.			
Cloverdale No. 3	O. H. Snyder	North Fork, Pa.	Cheese.	....	72,428
High Up	Porter Stephens	Troupsburgh	do	....	81,000
Troupsburgh	James McKinley	do	do	....	128,152
		WEST UNION.			
Cloverdale No. 10	O. H. Snyder	North Fork, Pa.	do	....	68,256
Cloverdale No. 12	do	do	do	....	53,255
		WOODHULL.			
Limebrook No. 2	T. J. Carmody	Cuba	do	....	124,509

SULLIVAN COUNTY.

CALLICOON.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Jefferson	V. Scheidell	Jeffersonville	Butter.	83,000	....

TIOGA COUNTY.

BERKSHIRE.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Cold Spring	Standard Butter Co.	Owego	do	40,608	....

NEWARK VALLEY.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Blue Grass	Standard Butter Co.	Owego	do	63,774	....
Eureka	do	do	do	25,075	....
Maple Crove	do	do	do	64,000	....
Model	do	do	do	43,285	....
Perfection	do	do	do	56,532	....
St. Charles	do	do	do	42,045	....

OWEGO.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Empire	W. R. Notware	South Apalachin	do	32,109	....
Foster Valley	P. S. Surdum	Union	do	54,854	....
Gilt Edge	Standard Butter Co.	Owego	do	120,741	....
Hillside	do	do	do	33,031	....

RICHFORD.

Brookside	E. F. Belden	Richford	do	62,000	....
Turnpike	Fred Marsh	do	do	45,000	....

TIOGA.

Clover Hill	Standard Butter Co	Owego	do	58,971	....
Fountain Rock	do	do	do	33,215	....

TOMPKINS COUNTY.

CAROLINE.

Caroline	R. G. Speed	Slaterville Springs	Cheese	....	80,280
Crystal Fountain	S. M. & John Bull	do	Butter	175,529	....
Trout Brook	Standard Butter Co	Owego	do	62,231	....

DRYDEN.

Gee Hill	Frank L. Stillman	Dryden	do	35,192	....
McLean	F. E. Perry	McLean	Cheese	....	75,000

GROTON.

Wild Rose	Standard Butter Co	Owego	Butter	91,841	....

NEWFIELD.

Newfield	Samuel H. Taggart	Newfield	do	27,389	....

WARREN COUNTY.

GLENS FALLS.

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Glens Falls	O. L. Kimball	Glens Falls	Butter.	90,000	....
WASHINGTON COUNTY.					
GRANVILLE.					
Granville No. 5	Frank Beecher	Granville	Cheese.	....	80,000
Middle Granville	Eugene H. Tanner	Middle Granville	do	....	5,000
North Granville	L. Wolfe	North Granville	do	....	70,000
Slyborough	G. F. McCotter	Slyborough	do	....	38,292
HARTFORD.					
East Hartford	A. Gourlay	East Hartford	do	....	60,243
Old Hartford	J. H. Brayton	Hartford	do	....	110,000
South Hartford Cheese Mfg. Ass'n	E. W. Townsend	do	do	....	29,024
HEBRON.					
Hebron Cheese Mfg. Co	Henry R. Wilson	Hebron	do	....	60,000
Hebron Union	C. D. Parker	West Pawlet, Vt	do	....	120,000
North Hebron	L. A. Cole	North Hebron	do	....	88,802

		SALEM.			
Salem Cheese Factory Ass'n.	J. M. Thompson	Salem	do	....	55,217
Shushan Co-operative Creamery Ass'n	Geo. A. Armstrong	Shushan	Butter.	40,000	....
		WHITEHALL.			
Whitehall Creamery Co	Franz E. Richter	Whitehall	do	71,000	....
		WAYNE COUNTY.			
		GALEN.			
Clyde Creamery Co	A. A. Graham	Clyde	do	59,734	....
		HURON.			
Huron Crystal Springs	Samuel Cosad	Wolcott	do	30,000	....
		LYONS.			
Lyons	George Raukhert	Lyons	do	40,618	....
		PALMYRA.			
East Palmyra	A. B. Robinson	East Palmyra	do	21,611	....
		WALWORTH.			
Lincoln	G. M. Engert	Lincoln	Cheese.	....	25,326
		WILLIAMSON.			
Eddy Bros	L. C. Eddy	Williamson	do	....	12,500

WAYNE COUNTY — WOLCOTT — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Eureka	J. M. Watson	Wolcott	Cheese.	....	56,000
Red Creek Cheese Co.	G. W. Brinkerhoff	do	do	....	86,000
WYOMING COUNTY.					
ARCADE.					
Arcade	John L. Gibby	Arcade	do	....	180,125
Punkshire	E. H. Farrington	Franklinville	do	....	19,191
Sandusky No 7	J. B. Lewis	Sandusky	do	....	48,965
Sandusky No. 8	W. H. Wilson	Arcade	do	....	152,410
Sandusky No. 11	J. B. Lewis	Sandusky	do	....	42,259
ATTICA.					
Attica	A. J. Rice and C. S. Adams.	Attica	B. & C.	115,000	100,000
Excelsior No. 6	M. D. Winchester	do	Cheese.	....	65,400
Excelsior No. 7	do	do	do	....	10,000
Park	Robert Norton & Co.	do	do	....	10,000
BENNINGTON.					
Bennington Center	Richardson, Beebe & Co.	East Aurora	do	....	64,211
Cowlesville	do	do	Butter.	46,123	....
East Bennington	Martin Hasselbeck	594 Jefferson st., Buffalo	B. & C.	2,200	65,000

Elmont	Richardson, Beebe & Co	East Aurora	Cheese.	....	47,190
Queen of Valley	do	do	B. & C.	3,862	48,798
South Bennington	Martin Hasselbeck	594 Jefferson st., Buffalo	do	2,500	60,000

CASTILE.

Castile	J. H. Felch	Castile	Cheese.	....	52,430

EAGLE.

Bliss	E. L Jones	Delevan	do	....	48,557
Eagle	do	do	do	....	34,536
Sandusky No. 4	J. B. Lewis	Sandusky	do	....	33,570
Sandusky No. 6	do	do	do	....	58,284
Star No. 4	T. J. Hubbard	Wethersfield	do	....	32,000
Wing Street	E. O. Wood	Bliss	do	....	8,627

GAINESVILLE.

Gainesville	A. L. Tuller	Gainesville	do	....	99,393
Oatka	James Parker	Rock Glen	do	....	10,056

JAVA.

Excelsior No. 2	M. D. Winchester	Attica	do	....	63,197
Java Center	Richardson, Beebe & Co.	East Aurora	do	....	36,632
Java Lake	E. L. Jones'	Delevan	do	....	64,104
Java Village	Richardson, Beebe & Co.	East Aurora	Butter.	152,127	....
Star No. 2	T. J. Hubbard	Wethersfield	Cheese.	....	30,000

WYOMING COUNTY — ORANGEVILLE — (*Concluded*).

NAME OF FACTORY.	Proprietor or manager.	Post-office address of proprietor or manager.	The product manufactured at this factory is	Number of pounds of butter manufactured per year.	Number of pounds of cheese manufactured per year.
Excelsior No. 1	M. D. Winchester	Attica	Cheese.	....	93,138
Excelsior No. 4	do	do	do	....	63,000
Excelsior No. 5	do	do	do	....	48,100
C. A. Green	C. A. Green	Warsaw	do	....	61,171
Star No. 3	T. J. Hubbard	Wethersfield	do	....	32,000
		PERRY.			
Perry	P. P. Hubbard	Perry	Butter.	90,000	....
		PIKE.			
East Koy	C. H. Bevier	East Koy	Cheese.	....	66,669
Griffith Corners	Young & Young	Fillmore	do	....	49,000
Pike Centennial	Mrs. E. B. Willard	Pike	do	....	74,775
Pike Five Corners	J. O. Milks	do	do	....	69,000
		SHELDON.			
Buffalo Hill	Martin Hasselbeck	No. 594 Jefferson st., Buffalo	B. & C.	1,800	58,000
Excelsior No. 3	M. D. Winchester	Attica	Cheese.	....	6,100
North Sheldon	Richardson, Beebe & Co.	East Aurora	do	....	39,260
Sheldon	do	do	do	....	70,801
South Sheldon	do	do	do	....	76,050

Strykersville	do	do	Butter	55,285	....
Tozier	do	do	Cheese	....	42,228
Yunker	Martin Hasselbeck	No. 594 Jefferson st., Buffalo	B. & C.	2,800	68,000

WETHERSFIELD.

Hermitage	Herbert E. Dolph	Hermitage	Cheese	....	66,132
Star No. 1	T. J. Hubbard	Wethersfield	do	....	72,000
Wethersfield Springs	Lewis Safford	Wethersfield Springs	do	....	55,000

SUMMARY BY COUNTY AND TOWN, OF BUTTER AND CHEESE MADE IN FACTORIES.

County.

ALBANY.

TOWN.	Whole number of factories.	Number of Butter Factories and Pounds Made.		Number of Cheese Factories and Pounds Made.		Number of Factories Making both Butter and Cheese, and Number of Pounds of Each.			Whole number of pounds of butter.	Whole number of pounds of cheese.
		Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.		
Berne	1	....	....	1	18,431	....	....	....	....	18,431
ALLEGANY.										
Alfred	6	....	....	5	239,386	1	4,901	12,075	4,901	251,461
Allen	5	....	....	5	440,839	....	....	....	....	440,839
Almond	2	....	....	2	96,790	....	....	....	....	96,790
Amity	3	....	....	3	301,364	....	....	....	....	301,364
Angelica	1	....	....	1	61,049	....	....	....	....	61,049
Belfast	4	....	....	3	261,906	1	21,271	149,921	21,271	411,827
Bolivar	2	....	....	2	62,651	....	....	....	....	62,651
Burns	1	....	....	1	20,444	....	....	....	....	20,444
Caneadea	4	....	....	4	228,956	....	....	....	....	228,956
Centerville	3	....	....	3	204,534	....	....	....	....	204,534
Clarksville	2	....	....	2	290,000	....	....	....	....	290,000
Cuba	5	....	....	3	363,769	2	84,759	135,618	84,759	499,887
Friendship	5	....	....	4	437,471	1	40,000	90,000	40,000	527,471
Genesee	1	....	....	1	97,000	...	....	....	....	97,000

Granger	1	....	....	1	65,000	....	....	....	....	65,000
Hume	8	....	....	7	416,386	1	6,000	80,000	6,000	496,386
Independence	4	....	....	4	372,982	....	....	....	....	372,982
New. Hudson	6	....	....	6	588,284	....	....	....	....	588,284
Rushford	7	....	....	7	551,164	....	....	....	....	551,164
Scio	4	....	....	4	294,775	....	....	....	....	294,775
Ward	3	....	....	3	225,416	....	....	....	....	225,416
Wellsville	2	....	....	2	97,167	....	....	....	....	97,167
West Almond	2	....	....	2	151,536	....	....	....	....	151,536
Willing	4	....	....	4	282,179	....	....	....	....	282,179
Wirt	3	....	....	3	192,000	....	....	....	....	192,000
					BROOME.					
Centerville	1	1	75,000	....	....	....	....	....	75,000	....
Chenango	1	1	50,000	....	....	....	....	....	50,000	....
Colesville	2	2	107,260	....	....	....	....	....	107,260	....
Fenton	1	....	....	1	50,966	....	....	....	....	50,966
Lisle	3	3	127,061	....	....	....	....	....	127,061	....
Maine	2	2	180,456	....	....	....	....	....	180,456	....
Nanticoke	2	2	81,132	....	....	....	....	....	81,132	....
Sanford	3	3	102,000	....	....	....	....	....	102,000	....
Triangle	1	....	....	....	....	1	20,496	71,638	20,496	71,638
Union	2	2	96,456	....	....	....	....	....	96,456	....
Vestal	3	3	181,874	....	....	....	....	....	181,874	....
					CATTARAUGUS					
Allegany	3	....	....	3	296,720	....	....	....	....	296,720
Ashford	11	....	....	11	743,514	....	....	....	....	743,514
Cold Spring	1	....	....	1	200,000	....	....	....	....	200,000
Conewango	6	....	....	2	175,000	4	101,951	225,769	101,951	400,769

CATTARAUGUS — (*Concluded*).

TOWN.	Whole number of factories.	Number of Butter Factories and Pounds Made.		Number of Cheese Factories and Pounds Made.		Number of Factories Making both Butter and Cheese, and Number of Pounds of Each.			Whole number of pounds of butter.	Whole number of pounds of cheese.
		Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.		
Dayton	4	1	17,000	3	290,381	....	....	....	17,000	290,381
East Otto	6	....	....	6	622,381	....	....	....	....	622,381
Ellicottville	8	1	93,000	7	352,900	....	....	....	93,000	352,900
Farmersville	8	....	....	7	465,337	1	2,276	54,351	2,276	519,688
Franklinville	7	....	....	6	465,560	1	17,714	48,117	17,714	513,677
Freedom	4	....	....	4	313,307	....	....	....	....	313,307
Great Valley	4	....	....	4	257,757	....	....	....	....	257,757
Hinsdale	3	....	....	3	493,345	....	....	....	....	493,345
Humphrey	5	....	....	5	332,946	....	....	....	....	332,946
Ischua	3	....	....	3	389,127	....	....	....	....	389,127
Leon	6	1	3,500	5	302,011	....	....	....	3,500	302,011
Little Valley	2	....	....	2	261,298	....	....	....	....	261,298
Lyndon	4	....	....	4	323,482	....	....	....	....	323,482
Machias	5	1	51,000	3	158,105	1	6,610	55,779	57,610	213,884
Mansfield	6	....	....	6	623,676	....	....	....	....	623,676
Napoli	3	....	....	3	337,147	....	....	....	....	337,147
New Albion	3	....	....	3	305,558	....	....	....	....	305,558
Otto	6	....	....	6	677,629	....	....	....	....	677,629
Perrysburgh	2	....	....	2	95,206	....	....	....	....	95,206
Persia	2	....	....	2	107,770	....	....	....	....	107,770
Portville	3	....	....	3	347,045	....	....	....	....	347,045

Randolph	3	....	....	3	302,554	....	....	....	....	302,554
Red House	1	....	....	1	46,335	....	....	....	....	46,335
South Valley	2	1	30,000	1	48,477	....	....	....	30,000	48,477
Yorkshire	6	....	....	5	183,501	1	37,461	15,937	37,461	199,438

CAYUGA.

Cato	2	1	28,588	1	69,113	....	....	....	28,588	69,113
Genoa	1	1	20,250	....	....	....	....	....	20,250	....
Ira	1	1	16,000	....	....	....	....	....	16,000	....
Sempronius	1	....	....	1	90,000	....	....	....	....	90,000
Sennett	1	1	98,000	....	....	....	....	....	98,000	....
Sterling	1	1	33,000	....	....	....	....	....	33,000	....
Summer Hill	1	....	....	1	45,000	....	....	....	....	45,000

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CHAUTAUQUA.

Arkwright	3	....	....	3	191,242	....	....	....	....	191,242
Busti	1	1	113,615	....	....	....	....	....	113,615	....
Carroll	5	5	233,285	....	....	....	....	....	233,285	....
Charlotte	4	....	....	4	363,930	....	....	....	....	363,930
Chautauqua	5	1	52,971	4	315,789	....	....	....	52,971	315,789
Cherry Creek	2	....	....	2	217,045	....	....	....	....	217,045
Clymer	3	3	176,023	....	....	....	....	....	176,023	....
Ellery	5	....	....	5	445,007	....	....	....	....	445,007
Ellicott	1	1	99,683	....	....	....	....	....	99,683	....
Ellington	4	....	....	4	245,149	....	....	....	....	245,149
French Creek	3	3	238,651	....	....	....	....	....	238,651	....
Gerry	5	3	143,640	2	66,797	....	....	....	143,640	66,797
Hanover	2	....	....	2	133,048	...	....	....	....	133,048
Harmony	6	2	127,289	3	176,072	1	30,000	8,000	157,289	184,072
Kiantone	2	2	95,025	....	....	....	....	....	95,025	....

CHAUTAUQUA — (*Concluded*).

TOWN.	Whole number of factories.	Number of Butter Factories and Pounds Made.		Number of Cheese Factories and Pounds Made		Number of Factories Making both Butter and Cheese and Number of Pounds of Each.			Whole number of pounds of butter.	Whole number of pounds of cheese.
		Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.		
Mina	2	2	132,723	....	....	....	....	....	132,723	....
Poland	2	1	77,522	1	77,663	....	....	....	77,522	77,663
Ripley	3	3	71,055	....	....	....	....	....	71,055	....
Sheridan	3	2	625,218	1	10,000	....	....	....	625,218	10,000
Stockton	5	2	102,129	3	158,608	....	....	....	102,129	158,608
Villenova	3	....	....	3	169,371	....	....	....	....	169,371

CHEMUNG

TOWN.	Whole number of factories.	Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.	Whole number of pounds of butter.	Whole number of pounds of cheese.
Elmira	2	2	23,002	....	....	....	....	....	23,002	....
Horseheads	2	....	....	....	....	2	105,779	156,621	105,779	156,621

CHENANGO.

TOWN.	Whole number of factories.	Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.	Whole number of pounds of butter.	Whole number of pounds of cheese.
Afton	1	1	51,000	....	....	....	....	....	51,000	....
Bainbridge	2	1	418,118	1	24,000	....	....	....	418,118	24,000
Columbus	3	....	....	....	....	3	89,600	225,983	89,600	225,983
Coventry	3	1	83,958	....	....	2	40,999	88,212	124,957	88,212
Greene	5	....	....	1	109,382	4	16,994	203,275	16,994	312,657
Guilford	4	....	....	1	27,298	3	203,145	319,406	208,145	346,704
Lincklaen	2	....	....	....	....	2	87,367	158,582	87,867	158,582

New Berlin.........	1	....	....	....	....	1	14,245	47,231	14,245	47,231
North Norwich.....	1	....	....	....	....	1	6,679	32,736	6,679	32,736
Norwich	2	...	....	....	....	2	26,805	161,446	26,805	161,446
Oxford	2	....	....	1	13,802	1	8,690	34,487	8,690	48,289
Pitcher	3	....	....	1	63,002	2	49,103	90,719	49,103	153,721
Plymouth..........	1	1	16,000	....	....	....	....	....	16,000	....
Preston............	2	....	....	2	239,605	....	....	....	....	239,605
Sherburne	3	1	17,057	1	38,655	1	7,494	36,122	24,551	74,777
Smithville	4	1	9,000	1	42,732	2	27,500	138,400	36,500	181,132
Smyrna............	1	1	53,945	....	....	....	....	....	53,945	....
CLINTON.										
Altona	3	3	158,474	....	....	....	....	....	158,474	....
Beekmantown	3	3	63,203	....	....	....	....	....	63,203	....
Champlain	1	1	65,000	....	....	....	....	....	65,000	....
Chazy	2	2	153,558	....	....	....	....	....	153,558	....
Clinton	3	3	230,320	....	....	....	....	....	230,320	....
Ellenburgh	4	4	250,740	....	....	....	....	....	250,740	....
Mooers	4	4	183,080	....	....	....	....	....	183,080	....
Peru	2	....	....	2	240,000	....	....	....	....	240,000
Plattsburgh........	2	2	224,271	....	....	....	....	....	224,271	....
Saranac	3	3	72,500	....	....	....	....	....	72,500	....
CORTLAND.										
Cincinnatus	2	....	....	....	....	2	50,859	52,964	50,859	52,964
Cortland	2	1	40,000	1	108,523	....	....	....	40,000	108,523
Cuyler	3	....	....	2	56,741	1	23,749	51,265	23,749	108,006
Freetown	3	2	118,506	...	....	1	48,703	17,333	167,209	17,333
Harford	1	1	20,500	....	....	....	....	....	20,500	....
Homer	4	2	16,315	1	195,453	1	8,200	7,559	24,515	203,012

CORTLAND — (*Concluded*).

TOWN.	Whole number of factories.	Number of Butter Factories and Pounds Made.		Number of Cheese Factories and Pounds Made.		Number of Factories Making both Butter and Cheese, and Number of Pounds of Each.			Whole number of pounds of butter.	Whole number of pounds of cheese.
		Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.		
Lapeer	2	1	21,100	1	44,363	....	....	....	21,100	44,363
Marathon	3	....	....	2	136,521	1	40,000	24,260	40,000	160,781
Scott	1	....	....	....	....	1	7,320	40,000	7,320	40,000
Solon	3	....	....	3	153,595	....	....	....	....	153,595
Taylor	4	....	....	...	....	4	45,482	250,256	45,482	250,256
Virgil	1	....	....	....	....	1	18,084	120,005	18,084	120,005
Willett	1	....	....	1	36,840	....	....	....	....	36,840
DELAWARE.										
Franklin	3	3	92,779	....	....	....	....	....	92,779	....
Masonville	2	2	106,562	....	....	....	....	....	106,562	....
Stamford	1	1	174,033	....	....	....	....	....	174,033	....
Tompkins	4	3	181,667	....	....	1	48,408	4,941	230,070	4,941
ERIE.										
Amherst	1	1	32,000	....	....	....	....	....	32,000	....
Aurora	1	1	70,820	....	....	....	....	....	70,820	....
Brant	1	....	....	1	41,320	....	....	....	....	41,320
Clarence	1	1	123,414	....	....	....	....	....	123,414	....
Colden	4	....	....	4	144,976	....	....	....	....	144,976

Collins	11	....	....	11	768,206	....	....	....	....	768,206
Concord	9	....	....	9	629,435	....	....	....	....	629,435
Eden	3	....	....	1	60,000	2	4,115	84,300	4,115	144,300
Evans	1	....	....	1	32,695	....	....	....	....	32,695
Hamburgh	1	....	....	....	....	1	2,020	23,100	2,020	23,100
Holland	4	....	....	4	289,770	....	....	....	....	289,770
Marilla	2	2	152,755	....	....	....	....	....	152,755	....
Newstead	1	1	58,303	....	....	....	....	....	58,303	....
North Collins	3	....	....	2	150,649	1	2,640	30,800	2,640	181,449
Sardinia	6	....	....	6	396,455	....	....	....	....	396,455
Wales	3	2	154,952	1	69,177	....	....	....	154,952	69,177
ESSEX.										
Willsborough	1	1	2,999	....	....	....	....	....	2,999	....
FRANKLIN.										
Bangor	6	6	285,418	....	....	....	....	....	285,418	....
Bellmont	3	3	93,988	....	....	....	....	....	93,988	....
Bombay	3	2	150,700	1	70,000	....	....	....	150,700	70,000
Brandon	1	1	30,215	....	....	....	....	....	30,215	....
Burke	5	4	179,383	1	61,915	....	....	....	179,383	61,915
Chateaugay	5	5	342,047	....	....	....	....	....	342,047	....
Constable	1	1	48,100	....	....	....	....	....	48,100	....
Dickinson	3	3	179,954	....	....	....	....	....	179,954	....
Fort Covington	2	2	183,112	....	....	....	....	....	183,112	....
Malone	5	5	211,795	....	....	....	....	....	211,795	....
FULTON.										
Johnstown	1	....	....	1	36,946	....	....	....	....	36,946
City of Johnstown	1	1	3,960	....	....	....	....	....	3,960	....
Oppenheim	2	....	....	2	61,624	....	....	....	....	61,624

GENESEE.

TOWN.	Whole number of factories.	NUMBER OF BUTTER FACTORIES AND POUNDS MADE.		NUMBER OF CHEESE FACTORIES AND POUNDS MADE.		NUMBER OF FACTORIES MAKING BOTH BUTTER AND CHEESE, AND NUMBER OF POUNDS OF EACH.			Whole number of pounds of butter.	Whole number of pounds of cheese.
		Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.		
Bergen	1	1	46,904	....	....	....	....	....	46,904	....
Byron	1	....	....	1	30,000	....	....	....	....	30,000
Darien	1	....	....	....	....	1	1,900	55,000	1,900	55,000
Elba	1	....	....	....	....	1	27,484	1,520	27,484	1,520
Le Roy	1	1	68,156	....	....	....	....	....	68,156	....

HERKIMER.

TOWN.	Whole number of factories.	Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.	Whole number of pounds of butter.	Whole number of pounds of cheese.
Columbia	1	....	....	1	101,868	....	....	....	....	101,868
Danube	4	....	....	3	212,156	1	55,000	48,100	55,000	260,256
Fairfield	12	1	10,000	10	1,070,030	1	2,000	14,000	12,000	1,084,030
Frankfort	2	....	....	2	146,361	....	....	....	....	146,361
German Flats	6	....	....	6	373,706	....	....	....	....	373,706
Herkimer	8	1	8,600	7	356,356	....	....	....	8,600	356,356
Little Falls	5	....	....	5	489,902	....	....	....	....	489,902
Litchfield	6	....	....	6	538,555	....	....	....	....	538,555
Manheim	10	....	....	8	487,684	2	30,098	38,578	30,098	526,262
Newport	6	....	....	3	209,912	3	44,353	343,185	44,353	553,097
Norway	7	....	....	6	509,322	1	4,329	110,375	4,329	619,697
Ohio	2	....	....	1	18,000	1	1,000	6,500	1,000	24,500
Russia	7	....	....	6	413,875	1	3,736	126,700	3,786	540,075

Salisbury	4	....	....	4	236,132	....	....	....	....	236,132
Schuyler	5	....	....	5	530,804	....	....	....	....	530,804
Stark	4	....	....	4	203,874	....	....	....	....	203,874
Warren	7	....	....	7	351,635	....	....	....	....	351,635
Winfield	1	....	....	1	134,000	....	....	....	....	134,000

JEFFERSON.

Adams	5	....	....	3	115,397	2	3,237	224,056	3,237	339,453
Alexandria	12	....	....	12	734,388	....	....	....	....	734,388
Antwerp	9	....	....	8	754,167	1	86,359	1,500,000	86,359	2,254,167
Brownville	5	....	....	5	279,929	....	....	....	....	279,929
Cape Vincent	2	....	....	2	72,518	....	....	....	....	72,518
Champion	5	....	....	5	360,208	....	....	....	....	360,208
Clayton	6	....	....	6	409,388	....	....	....	....	409,388
Ellisburgh	10	....	....	4	220,430	6	177,901	1,112,006	177,901	1,332,436
Henderson	4	....	....	1	26,629	3	29,581	289,533	29,581	316,162
Hounsfield	3	....	....	3	191,188	....	....	....	....	191,188
Le Ray	4	....	....	4	286,515	....	....	....	....	286,515
Lorraine	6	....	....	5	256,241	1	424	29,060	424	285,301
Lyme	1	....	....	1	42,600	....	....	....	....	42,600
Orleans	5	....	....	5	270,357	....	....	....	....	270,357
Pamelia	3	....	....	3	183,900	....	....	....	....	183,900
Philadelphia	8	....	....	8	518,352	....	....	....	....	518,352
Rodman	7	1	44,600	6	553,368	...	....	....	44,600	553,368
Rutland	7	....	....	7	540,487	....	....	....	....	540,487
Theresa	11	....	....	11	737,641	....	....	....	....	737,641
Watertown	4	....	....	4	413,104	....	....	....	....	413,104
Wilna	6	....	....	6	423,038	....	....	....	....	423,038
Worth	1	....	....	1	84,500	....	....	....	....	84,500

LEWIS.

TOWN.	Whole number of factories.	Number of Butter Factories and Pounds Made.		Number of Cheese Factories and Pounds Made.		Number of Factories Making both Butter and Cheese, and Number of Pounds of Each.			Whole number of pounds of butter.	Whole number of pounds of cheese.
		Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.		
Croghan	8	....	....	8	391,078	....	....	....	....	391,078
Denmark	8	....	....	7	516,441	1	17,914	182,474	17,914	698,915
Diana	2	....	....	2	115,996	....	....	....	....	115,996
Greig	3	....	....	3	127,794	....	....	....	....	127,794
Harrisburgh	7	....	....	7	469,356	....	....	....	....	469,356
High Market	9	....	....	8	741,435	1	500	14,000	500	755,435
Leyden	8	....	....	8	697,323	....	....	....	....	697,323
Lowville	6	....	....	6	562,605	....	....	....	....	562,605
Martinsburgh	12	....	....	11	682,759	1	4,019	102,738	4,019	785,497
Montague	2	....	....	2	128,552	....	....	....	....	128,552
New Bremen	4	....	....	4	249,116	....	....	....	....	249,116
Osceola	2	....	....	2	156,928	....	....	....	....	156,928
Pinckney	5	....	....	5	342,896	....	....	....	....	342,896
Turin	5	....	....	5	486,854	....	....	....	....	486,854
Watson	1	....	....	1	38,140	....	....	....	....	38,140
West Turin	6	....	....	6	609,803	....	....	....	....	609,803

LIVINGSTON.

TOWN.	Whole number of factories.	Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.	Whole number of pounds of butter.	Whole number of pounds of cheese.
Geneseo	1	1	54,085	...	....	...	....	....	54,085	....
Hunda	1	....	....	1	72,000	....	....	....	....	72,000
Portage	3	1	22,260	2	90,054	....	....	....	22,260	90,054
Sparta	1	1	49,000	....	....	....	....	....	49,000	....

MADISON.

Brookfield	8	....	....	7	488,371	1	15,454	66,731	15,454	555,102
Cazenovia	4	1	6,000	2	136,449	1	62,144	323,088	68,144	459,537
Eaton	2	....	....	....	....	2	60,062	375,410	60,062	375,410
Georgetown	2	....	....	1	82,014	1	8,860	92,458	8,860	174,472
Hamilton	2	1	65,000	1	56,324	....	....	....	65,000	56,324
Lenox	7	....	....	6	515,694	1	3,000	60,000	3,000	575,694
Madison	1	....	....	1	36,045	....	....	....	....	36,045
Nelson	2	....	....	1	87,247	1	22,141	209,972	22,141	297,219
Smithfield	1	....	....	1	87,085	....	....	....	....	87,085
Sullivan	4	....	....	4	324,592	....	....	....	....	324,592

MONROE.

Clarkson	1	1	60,213	....	....	....	....	....	60,213	....
Mendon	2	1	84,000	1	23,400	....	....	....	84,000	23,400
Ogden	1	1	43,492	....	....	....	....	....	43,492	....
Parma	1	1	49,443	....	....	....	....	....	49,448	....

MONTGOMERY.

Canajoharie	4	....	....	4	172,088	....	....	....	....	172,088
Florida	1	....	....	1	36,550	....	....	....	....	36,550
Minden	6	....	....	6	508,800	....	....	....	....	508,800
Mohawk	4	....	....	4	154,439	....	....	....	....	154,439
Palatine	6	....	....	5	239,308	1	1,793	95,093	1,793	334,401
Root	4	....	....	4	142,079	....	....	....	....	142,079
St. Johnsville	1	....	....	1	98,059	....	....	....	....	98,059

NIAGARA.

TOWN.	Whole number of factories.	NUMBER OF BUTTER FACTORIES AND POUNDS MADE.		NUMBER OF CHEESE FACTORIES AND POUNDS MADE.		NUMBER OF FACTORIES MAKING BOTH BUTTER AND CHEESE, AND NUMBER OF POUNDS OF EACH.			Whole number of pounds of butter.	Whole number of pounds of cheese.
		Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.		
Lockport	1	1	21,253	....	....	....	....	....	21,253	....
Newfane	1	1	25,650	....	....	....	....	....	25,650	....
Porter	1	1	13,000	.. ..	....	....	....	....	13,000	....
Royalton	1	1	25,650	....	....	....	....	....	25,650	....
Wilson	2	1	17,072	1	20,187	....	....	....	17,072	20,187

ONEIDA.

TOWN.	Whole number of factories.	Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.	Whole number of pounds of butter.	Whole number of pounds of cheese.
Annsville	6	....	....	6	322,676	....	....	....	....	322,676
Augusta	1	....	....	1	51,480	....	....	....	....	51,480
Ava	3	....	....	3	220,637	....	....	....	....	220,637
Boonville	12	....	....	11	488,471	1	20,000	35,000	20,000	523,471
Bridgewater	2	....	....	1	139,562	1	705	30,640	705	170,202
Camden	4	....	....	4	200,000	....	....	....	....	200,000
Deerfield	5	....	....	2	160,102	3	15,913	280,000	15,913	440,102
Florence	4	....	....	4	293,088	....	....	....	....	293,088
Floyd	4	....	....	2	174,471	2	6,630	69,956	6,630	244,427
Forestport	1	....	....	1	38,700	....	....	....	....	38,700
Kirkland	1	1	183,753	....	....	....	....	....	183,753	....
Lee	19	....	....	18	953,666	1	150	30,000	150	983,666
Marcy	3	....	....	2	100,072	1	22,500	177,820	22,500	277,892

Paris	1	....	....	1	15,243	....	....	....	....	15,243
New Hartford	1	....	....	....	....	1	20,000	10,000	20,000	10,000
Remsen	2	....	....	2	152,210	....	....	....	....	152,210
Rome	4	....	....	4	226,193	....	....	....	....	226,193
Sangerfield	1	....	....	1	37,000	....	....	....	....	37,000
Steuben	4	....	....	4	346,627	....	....	....	....	346,627
Trenton	6	....	....	....	....	6	104,359	822,212	104,359	822,212
Vernon	2	....	....	2	200,000	....	....	....	....	200,000
Verona	7	....	....	7	585,963	....	....	....	....	585,963
Vienna	4	....	....	4	259,906	....	....	....	....	259,906
Western	11	....	....	10	524,289	1	200	18,000	200	542,289
Westmoreland	2	....	....	2	228,446	....	....	....	....	228,446
ONONDAGA.										
Cicero	2	....	....	2	124,913	....	....	....	....	124,913
Elbridge	1	....	....	....	....	1	6,000	12,606	6,000	12,606
Fabius	1	....	....	....	....	1	240,000	700	240,000	700
Lysander	1	1	60,648	....	....	....	....	....	60,648	....
Manlius	1	....	....	1	82,957	....	....	....	....	82,957
Pompey	3	1	43,954	2	87,240	....	....	....	43,954	87,240
ONTARIO.										
Manchester	2	2	89,890	....	....	....	....	....	89,890	....
Seneca	1	1	60,000	....	....	....	....	....	60,000	....
ORLEANS.										
Kendall	1	....	....	1	31,678	....	....	....	....	31,678
Murray	1	....	....	1	87,920	....	....	....	....	87,920

OSWEGO.

TOWN.	Whole number of factories.	Number of Butter Factories and Pounds Made.		Number of Cheese Factories and Pounds Made.		Number of Factories Making both Butter and Cheese, and Number of Pounds of Each.			Whole number of pounds of butter.	Whole number of pounds of cheese.
		Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.		
Albion	4	....	....	4	203,571	....	....	....	....	203,571
Amboy	2	....	....	2	185,368	....	....	....	....	185,368
Boylston	1	....	....	1	92,630	....	....	....	....	92,630
Constantia	1	....	....	1	33,000	....	....	....	....	33,000
Granby	5	1	10,975	4	270,541	....	....	....	10,975	270,541
Hannibal	2	....	....	2	174,914	....	....	....	....	174,914
Hastings	4	....	....	4	226,080	....	....	....	....	226,080
Mexico	7	....	....	6	686,663	1	1,268	46,610	1,268	733,273
New Haven	3	....	....	3	190,280	....	....	....	....	190,280
Orwell	3	....	....	3	186,390	....	....	....	....	186,390
Palermo	2	....	....	1	85,000	1	1,500	115,000	1,500	200,000
Parish	2	....	....	2	131,430	....	....	....	....	131,430
Richland	6	....	....	3	367,537	3	8,561	461,979	8,561	829,516
Sandy Creek	4	....	....	3	236,771	1	1,800	212,000	1,800	448,771
Scriba	5	1	7,000	4	175,346	....	....	....	7,000	175,346
Schroeppel	3	....	....	2	347,278	1	985	139,595	985	486,873
Volney	5	....	....	5	414,692	....	....	....	....	414,692
West Monroe	2	....	....	1	64,015	1	5,172	4,396	5,172	68,411
Williamstown	2	....	....	2	206,434	....	....	....	....	206,434

					OTSEGO.					
Burlington	7	....	....	7	540,225	....	....	....	....	540,225
Butternuts	6	1	50,785	4	263,119	1	15,300	42,505	66,085	305,624
Cherry Valley	1	....	....	1	60,000	....	....	....	....	60,000
Edmeston	2	....	....	2	158,992	....	....	....	....	158,992
Exeter	7	1	15,768	6	524,199	....	....	....	15,768	524,199
Hartwick	3	....	....	3	220,802	....	....	....	....	220,802
Laurens	2	1	46,427	1	28,869	....	....	....	46,427	28,869
Maryland	1	....	....	1	57,464	....	....	....	....	57,464
New Lisbon	6	1	17,355	5	293,912	....	....	....	17,355	293,912
Middlefield	5	....	....	5	219,680	....	....	....	....	219,680
Morris	3	....	....	2	149,554	1	5,000	96,000	5,000	245,554
Oneonta	2	1	38,700	1	34,417	....	....	....	38,700	34,417
Otego	4	3	157,983	1	25,831	....	....	....	157,983	25,831
Otsego	5	....	....	5	225,711	....	....	....	....	225,711
Plainfield	5	....	....	5	405,782	....	....	....	....	405,782
Richfield	5	....	....	4	234,087	1	543	88,900	543	322,987
Springfield	3	....	....	2	115,407	1	17,000	120,000	17,000	235,407
Unadilla	3	2	46,490	....	....	1	32,000	18,000	78,490	18,000
Westford	1	....	....	1	69,380	....	....	....	....	69,380
					RENSSELAER.					
Brunswick	1	1	109,270	....	....	....	....	....	109,270	....
Schaghticoke	1	1	110,319	....	....	....	....	....	110,319	....
					ST. LAWRENCE.					
Brasher	5	5	310,905	....	....	....	....	....	310,905	....
Canton	11	2	307,304	5	532,128	4	176,417	794,403	483,721	1,326,531
Colton	1	....	....	1	71,822	....	....	....	....	71,822
DeKalb	10	....	....	9	1,219,981	1	22,626	236,138	22,626	1,456,119

ST. LAWRENCE — (*Concluded*).

TOWN.	Whole number of factories.	NUMBER OF BUTTER FACTORIES AND POUNDS MADE.		NUMBER OF CHEESE FACTORIES AND POUNDS MADE.		NUMBER OF FACTORIES MAKING BOTH BUTTER AND CHEESE, AND NUMBER OF POUNDS OF EACH.			Whole number of pounds of butter.	Whole number of pounds of cheese.
		Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.		
DePeyster	5	....	....	5	670,397	....	....	....	....	670,397
Edwards	3	....	....	2	294,872	1	6,729	114,376	6,729	409,248
Fine	1	....	....	1	30,400	....	....	....	....	30,400
Fowler	4	4	448,363	....	....	....	....	....	448,363	....
Gouverneur	11	....	....	10	1,127,320	1	33,214	30,571	33,214	1,157,891
Hammond	7	....	....	7	1,408,824	....	....	....	....	499,798
Hermon	5	1	155,230	4	583,377	....	....	....	155,230	583,377
Hopkinton	4	4	315,902	....	....	...	....	....	315,902	....
Lawrence	5	5	348,591	....	....	....	....	....	348,591	....
Lisbon	14	11	525,906	3	213,214	....	....	....	525,906	213,214
Louisville	2	2	211,948	....	....	....	....	....	211,948	....
Macomb	5	....	....	5	538,260	....	....	....	....	538,260
Massena	6	4	926,258	2	55,118	....	....	....	926,258	55,118
Morristown	5	....	....	5	559,485	....	....	....	....	559,485
Madrid	1	1	300,000	....	....	....	....	....	300,000	....
Norfolk	1	1	150,000	....	....	....	....	....	150,000	....
Oswegatchie	5	....	....	5	524,116	....	....	....	....	524,116
Parishville	4	2	38,605	2	100,445	....	....	....	38,605	100,445
Pierrepont	2	....	....	1	85,600	1	59,303	30,053	59,303	115,653
Pitcairn	2	....	....	2	80,120	....	....	....	....	80,120
Potsdam	6	4	541,333	2	259,162	....	....	....	541,333	259,162

Rossie	10	....	....	10	968,849	....	....	....	....	968,849
Russell	3	....	....	3	429,020	....	....	....	....	429,020
Stockholm	9	8	465,502	1	9,983	....	....	....	465,502	9,983
Waddington	5	5	484,480	....	....	....	....	....	484,480	....
Winthrop	1	1	125,000	....	....	....	....	....	125,000	....
SARATOGA.										
Ballston	1	....	....	1	48,061	....	....	....	....	48,461
Halfmoon	1	1	55,073	....	....	....	....	....	55,073	....
Saratoga	1	1	138,000	....	....	....	....	....	138,000	....
SCHENECTADY.										
Duanesburgh	1	....	....	1	18,129	....	....	....	....	18,129
Princetown	1	....	....	1	20,255	....	....	....	....	20,255
SCHUYLER.										
Dix	1	....	....	1	67,385	....	....	....	....	67,385
Orange	1	....	....	1	48,812	....	....	....	....	48,812
STEUBEN.										
Addison	1	....	....	1	13,000	....	....	....	....	13,000
Avoca	1	....	....	1	28,848	....	....	....	....	28,848
Bath	1	....	....	1	12,886	....	....	....	....	12,886
Canisteo	1	....	....	1	75,714	....	....	....	....	75,714
Caton	1	1	30,000	....	....	....	....	....	30,000	....
Corning	1	1	25,000	....	....	....	....	....	25,000	....
Greenwood	2	....	....	2	155,296	....	....	....	....	155,296
Hartsville	1	....	....	1	60,000	....	....	....	....	60,000
Hornellsville, city of	2	1	108,955	....	....	1	2,050	60,000	111,005	60,000

STEUBEN — (*Concluded*).

TOWN.	Whole number of factories.	NUMBER OF BUTTER FACTORIES AND POUNDS MADE.		NUMBER OF CHEESE FACTORIES AND POUNDS MADE.		NUMBER OF FACTORIES MAKING BOTH BUTTER AND CHEESE, AND NUMBER OF POUNDS OF EACH.			Whole number of pounds of butter.	Whole number of pounds of cheese.
		Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.		
Howard	3	....	....	2	105,651	1	3,600	40,000	3,600	145,651
Jasper	3	....	....	3	165,069	....	....	....	....	165,069
Prattsburgh	2	2	9,210	....	....	....	....	....	9,210	....
Troupsburgh	3	....	....	3	281,580	....	....	....	....	281,580
West Union	2	....	....	2	121,511	....	....	....	....	121,511
Woodhull	1	....	....	1	124,509	....	....	....	....	124,509
SULLIVAN.										
Callicoon	**1**	**1**	**83,000**	....	....	....	....	....	**83,000**	....
TIOGA.										
Berkshire	**1**	**1**	**40,608**	....	....	....	....	....	**40,608**	....
Newark Valley	**6**	**6**	**294,711**	....	....	....	....	....	**294,711**	....
Owego	**4**	**4**	**240,735**	....	....	....	....	....	**240,735**	....
Richford	**2**	**2**	**107,000**	....	....	....	....	....	**107,000**	....
Tioga	**2**	**2**	**92,186**	....	....	....	....	....	**92,186**	....
TOMPKINS.										
Caroline	**3**	**2**	**237,760**	**1**	**80,280**	....	....	....	**237,760**	**80,280**
Dryden	**2**	**1**	**35,192**	**1**	**75,000**	....	....	....	**35,192**	**75,000**
Groton	**1**	**1**	**91,841**	....	....	....	....	....	**91,841**	....
Newfield	**1**	**1**	**27,389**	....	....	....	....	....	**27,389**	....

					WARREN.					
Glens Falls	1	1	90,000	....	....	....	....	....	90,000	....
					WASH'NGTON.					
Granville	4	....	....	4	193,292	....	....	....	....	193,292
Hartford	3	....	....	3	199,267	....	....	....	....	199,267
Hebron	3	....	....	3	263,302	....	....	....	....	263,302
Salem	2	1	40,000	1	55,217	....	....	....	40,000	55,217
Whitehall	1	1	71,000	....	....	....	....	....	71,000	....
					WAYNE					
Galen	1	1	59,734	....	....	....	....	....	59,734	....
Huron	1	1	30,000	....	....	....	....	....	30,000	....
Lyons	1	1	40,618	....	....	....	....	....	40,618	....
Palmyra	1	1	21,611	....	....	....	....	....	21,611	....
Walworth	1	....	....	1	25,326	....	....	....	....	25,326
Williamson	1	....	....	1	12,500	....	....	....	....	12,500
Wolcott	2	....	....	2	142,000	....	....	....	....	142,000
					WYOMING.					
Arcade	5	....	....	5	442,950	....	....	....	....	442,950
Attica	4	....	....	3	85,400	1	115,000	100,000	115,000	185,400
Bennington	6	1	46,123	2	111,401	3	8,562	173,798	54,685	285,199
Castile	1	....	....	1	52,430	....	....	....	....	52,430
Eagle	6	....	....	6	215,574	....	....	....	....	215,574
Gainesville	2	....	....	2	109,449	....	....	....	....	109,449
Java	5	1	152,127	4	193,933	....	....	....	152,127	193,933
Orangeville	5	....	....	5	297,409	....	....	....	....	297,409
Perry	1	1	90,000	....	....	....	....	....	90,000	....
Pike	4	....	....	4	259,444	....	....	....	....	259,444

SUMMARY OF BUTTER AND CHEESE MADE IN FACTORIES IN THE STATE OF NEW YORK DURING THE SEASON OF 1896.

COUNTY.	Whole number of factories.	NUMBER OF BUTTER FACTORIES AND POUNDS MADE.		NUMBER OF CHEESE FACTORIES AND POUNDS MADE.		NUMBER OF FACTORIES MAKING BOTH BUTTER AND CHEESE, AND NUMBER OF POUNDS OF EACH.			Whole number of pounds of butter.	Whole number of pounds of cheese.
		Number factories.	Pounds butter.	Number factories.	Pounds cheese.	Number factories.	Pounds butter.	Pounds cheese.		
Albany	1	....	....	1	18,431	....	....	....	....	18,431
Allegany	88	....	....	82	6,343,038	6	156,931	467,614	156,931	6,810,652
Broome	21	19	1,001,239	1	50,966	1	20,496	71,638	1,021,735	122,604
Cattaraugus	127	5	194,500	114	9,518,069	8	166,012	399,953	360,512	9,918,022
Cayuga	8	5	195,838	3	204,113	....	....	....	195,838	204,113
Chautauqua	69	31	2,288,829	37	2,569,721	1	30,000	8,000	2,318,829	2,577,721
Chemung	4	2	23,002	....	....	2	105,779	156,621	128,781	156,621
Chenango	40	7	649,078	9	558,476	24	528,621	1,536,549	1,177,699	2,095,025
Clinton	27	25	1,401,146	2	240,000	....	....	....	1,401,146	240,000
Cortland	30	7	216,421	11	732,036	12	242,397	563,642	458,818	1,295,678
Delaware	10	9	555,041	....	....	1	48,403	4,941	603,444	4,941
Erie	52	8	592,244	40	2,582,683	4	8,775	138,200	601,019	2,720,883
Essex	1	1	2,999	....	....	....	....	....	2,999	....
Franklin	34	32	1,704,712	2	131,915	....	....	....	1,704,712	131,915
Fulton	4	1	3,960	3	98,570	....	....	....	3,960	98,570
Genesee	5	2	115,060	1	30,000	2	29,384	56,520	144,444	86,520
Herkimer	97	2	18,600	85	6,383,672	10	140,516	687,438	159,116	7,071,110
Jefferson	124	1	44,600	110	7,474,345	13	297,502	3,154,655	342,102	10,629,000
Lewis	88	....	....	85	6,317,076	3	22,433	299,212	22,438	6,616,288

Livingston	6	3	125,345	3	162,054	....	....	....	125,345	162,054
Madison	33	2	71,000	24	1,813,821	7	171,661	1,127,659	242,661	2,941,480
Monroe	5	4	237,148	1	23,400	....	....	....	237,148	23,400
Montgomery	26	....	....	25	1,351,323	2	1,793	95,093	1,793	1,446,416
Niagara	6	5	102,625	1	20,187	....	....	....	102,625	20,187
Oneida	110	1	183,753	92	5,718,802	17	190,457	1,473,628	374,210	7,192,430
Onondaga	9	2	104,602	5	295,110	2	246,000	13,306	350,602	308,416
Ontario	3	3	149,890	....	....	....	....	....	149,890	....
Orleans	2	....	....	2	119,598	....	....	....	....	119,598
Oswego	63	2	17,975	53	4,277,940	8	19,286	979,580	37,261	5,257,520
Otsego	71	10	373,508	56	3,627,431	5	69,843	365,405	443,351	3,992,836
Rensselaer	2	2	219,589	....	....	....	....	....	219,589	....
St. Lawrence	153	60	5,655,327	85	9,762,493	8	298,289	1,205,541	5,953,616	10,059,008
Saratoga	3	2	193,073	1	48,061	....	....	....	193,073	48,061
Schenectady	2	....	....	2	38,384	....	....	....	....	38,384
Schuyler	2	....	....	2	116,197	....	....	....	....	116,197
Steuben	25	5	173,165	18	1,144,064	2	5,650	100,000	178,815	1,244,064
Sullivan	1	1	83,000	....	....	....	....	....	83,000	....
Tioga	15	15	775,240	....	....	....	....	....	775,240	....
Tompkins	7	5	392,182	2	155,280	....	....	....	392,182	155,280
Warren	1	1	90,000	....	....	....	....	....	90,000	....
Washington	13	2	111,000	11	711,078	....	....	....	111,000	711,078
Wayne	8	4	151,963	4	179,826	....	....	....	151,963	179,826
Wyoming	39	3	288,250	32	1,767,990	4	123,562	273,798	411,812	2,041,788

NAMES AND OFFICIAL ADDRESSES

OF THE

COMMISSIONER OF AGRICULTURE OF THE UNITED STATES, AND THE AGRICULTURE, DAIRY AND FOOD COMMISSIONS, STATE BOARDS AND BUREAUS OF AGRICULTURE OF THE SEVERAL STATES, A SYNOPSIS OF THE LAWS OF THE SEVERAL STATES AND THE PROVINCES OF MANITOBA AND ONTARIO, CANADA, RELATING TO MILK, BUTTER, OLEOMARGARINE, IMITATION BUTTER, CHEESE, VINEGAR, ETC.

Names and Official Addresses.

UNITED STATES.

Secretary of Agriculture.—James Wilson, Washington, D. C.

ALABAMA.

Commissioner of Agriculture.—H. D. Lane, Montgomery, Ala. Office elective.

CALIFORNIA.

State Dairy Bureau.—Wm. Vanderbilt, Secretary, 113 Davis street, San Francisco, Cal.

COLORADO.

State Dairy Commissioner.—H. B. Cannon, Denver, Col.

State Board of Agriculture.—Daniel W. Working, B. S., Secretary, Denver, Col.

CONNECTICUT.

Dairy Commissioner.—John B. Noble, Hartford, Conn.

State Board of Agriculture.—T. S. Gold, Secretary, West Cornwall, Conn.

GEORGIA.

Commissioner of Agriculture.—R. T. Nesbitt, Atlanta, Ga. The Commissioner of Agriculture has nothing to do with dairy products or vinegar.

IOWA.

State Dairy Commissioner.—W. K. Boardman, Des Moines, Ia.

KANSAS.

State Board of Agriculture.—F. D. Coburn, Secretary, Topeka, Kan.

KENTUCKY.

Commissioner of Agriculture.—Lucas Moore, Frankfort, Ky.

LOUISIANA.

Commissioner of Agriculture and Immigration.—J. G. Lee, Baton Rouge, La.

MASSACHUSETTS.

Dairy Bureau, Commissioners.— C. L. Hartshorn, Worcester, Mass.; Geo. L. Clemens, Southbridge, Mass.; D. A. Norton, Northampton, Mass. Executive Officer, Geo. M. Whitaker, Boston, Mass.

State Board of Agriculture.— Secretary, Wm. R. Sessions, Boston, Mass.

MAINE.

State Board of Agriculture.—B. Walker McKeen, Secretary, Augusta, Me.

MICHIGAN.

Dairy and Food Commissioner.—E. O. Grosvenor, Lansing, Mich.

State Board of Agriculture.— Ira H. Butterfield, Secretary, Agricultural College, Mich.

MINNESOTA.

Dairy and Food Commissioner.— Berndt Anderson, St. Paul, Minn.; Assistant Commissioner and Secretary, E. J. Graham, St. Paul, Minn.

MISSOURI.

State Board of Agriculture.— Alexander Maitland, President; John R. Rippey, Secretary, Columbia, Mo.

MONTANA.

State Bureau of Agriculture.—James H. Mills, Commissioner, Helena, Mont.

NEW HAMPSHIRE.

State Board of Agriculture.— Nahum J. Bachelder, Secretary, Concord, N. H.

NEW JERSEY.

Dairy Commissioner.— George W. McGuire, Trenton, N. J.

NEW YORK.

Commissioner of Agriculture.— Charles A. Wieting, Albany, N. Y.

NORTH CAROLINA.

Commissioner of Agriculture.— S. F. Patterson, Raleigh, N. C.

NORTH DAKOTA.

Commissioner of Agriculture.—H. N. Thomas, Bismarck, N. D.

OHIO.

Dairy and Food Commissioner.—J. E. Blackburn, Columbus, Ohio.

OREGON.

Dairy and Food Commissioner.—H. B. Luce, Portland, Ore.

PENNSYLVANIA.

Department of Agriculture.— Thos. J. Edge, Secretary, Harrisburg, Pa.

Dairy and Food Commissioner.— Major Levi Wells, Harrisburg, Pa.; Deputy Dairy and Food Commissioner, A. F. Seebold, Philadelphia, Pa.

RHODE ISLAND.

State Board of Agriculture.—George A. Stockwell, Secretary, Providence, R. I.

TENNESSEE.

Commissioner of Agriculture.—T. F. P. Allison, Nashville, Tenn.

TEXAS.

Commissioner of Agriculture.— John E. Hollingsworth, Austin, Tex.

VIRGINIA.

Department of Agriculture.—Thos. Whitehead, Commissioner, Richmond, Va.

WASHINGTON.

State Dairy Commissioner.—E. A. McDonald, Tacoma, Wash.

WEST VIRGINIA.

State Board of Agriculture.— T. C. Atkeson, President, Buffalo, W. Va.; C. C. Brown, Secretary, Charleston, W. Va.

WISCONSIN.

Dairy and Food Commissioner.—H. C. Adams, Madison, Wis.

CANADA.

Dairy Commissioner.— James W. Robertson, Ottawa, Can.

ONTARIO.

Department of Agriculture.— John Dryden, Minister of Agriculture, Toronto.

MANITOBA.

Dairy Association.—Miss E. Cora Hind, Secretary and Treasurer, 364 Main street, Winnipeg, Manitoba.

MILK STANDARD.

GEORGIA.

Skimmed Milk.

Milk which contains less than 3½ per cent. of butter fat and 8½ per cent. of other solids (other than butter fat), shall be regarded as skimmed or partially skimmed milk. (Laws 1895, chap. 207.) Law took effect January 1, 1896.

ILLINOIS.

88 per cent. water.
12 per cent. milk solids.
3 per cent. butter fat.

Contracts for purchase of milk within this State, for delivery within or without this State, is governed by this standard, except by special contract in writing. (Laws 1897, p. 268.)

IOWA.

There must be at least 3 pounds of butter fat to each 100 pounds of milk. (Laws 1892, chap. 50, § 2.)

MAINE.

88 per cent. water.
12 per cent. milk solids.
3 per cent. fat.

By gravimetric analysis. (Laws 1893, chap. 255.)

MASSACHUSETTS.

87 per cent. watery fluid.

13 per cent. of milk solids.

Nine and three-tenths per cent. of milk solids, exclusive of fat, or three and seven-tenths per cent. of fat; except during the months of April, May, June, July and August, when milk shall not contain less than 12 per cent. of milk solids or less than 9 per cent. of milk solids exclusive of fat, or less than 3 per cent. of fat. (Laws 1896, chap. 398.)

Skimmed Milk.

Skimmed milk must contain at least 9.3 per cent. milk solids. (Laws 1885, chap. 352.)

MICHIGAN.

87½ per cent. watery fluid.

12½ per cent. milk solids.

3 per cent. fat.

Specific gravity, at 60 degrees Fahrenheit, between 1.029 and 1.033. (Laws 1889, act 219.)

MINNESOTA.

87 per cent. water.

13 per cent. milk solids.

3½ per cent. fat.

(Laws 1897, chap. 119.)

NEW HAMPSHIRE.

87 per cent. watery fluid.

13 per cent. milk solids.

(Laws 1883, chap. 42.)

NEW JERSEY.

88 per cent. water.

12 per cent. solids.

(Laws 1882, chap. 82.)

NEW YORK.

88 per cent. water or fluids.

12 per cent. milk solids.

3 per cent. fat.

(Laws 1893, chap. 338, art. II, § 20.)

Condensed Milk.

The proportion of milk solids in condensed milk must be the equivalent of 12 per centum of milk solids in crude milk, of which solids 25 per centum must be fat. (Laws 1894, chap. 143, amending Laws 1893, chap. 338, art. II, § 25.)

OHIO.

88 per cent. of watery fluid.

12 per cent. of solids, not less than one-fourth of which must be fat; except during the months of May and June, when there must be not less than 11½ per cent. of milk solids. (Laws 1896, p. 149.)

Condensed Milk.

There must be the equivalent of 12 per centum of milk solids in crude milk; of such solids 25 per centum must be fat. (Laws 1886, p. 180.)

OREGON.

88 per cent water.

12 per cent. volume of cream.

3 per cent. fat.

Specific gravity, after removal of cream, 1.035. (Laws 1893, p. 99.)

PENNSYLVANIA.

87½ per centum watery fluid.

12½ per centum milk solids.

3 per centum fat.

Specific gravity, at 60 degrees Fahrenheit, between 1.029 and 1.033. (Laws 1885, No. 186.)

Skimmed Milk.

6 per centum of cream by volume.

2½ per centum of fat, by weight.

Specific gravity, at 60 degrees Fahrenheit, between 1.032 and 1.037. (Laws 1885, No. 186.)

SOUTH CAROLINA.

Skimmed Milk.

Milk which contains less than 3 per centum of butter fat and 8½ per centum of solids other than butter fat shall be regarded as skimmed milk. (Laws 1896, No. 96, p. 215.)

VERMONT.

12½ per cent. of total solids.

9¼ per cent. of total solids, not fat.

In the months of May and June there must be at least 12 per cent. of total solids. (Laws 1888, No. 108.)

In all creameries and cheese factories milk containing 4 per cent. of butter fat shall be the standard used as a paying basis. (Laws 1894, No. 113.)

WASHINGTON.

3 per cent. pure butter fat.

8 per cent. milk solids other than fat.

WISCONSIN.

Milk containing 3 per cent. of fat is merchantable milk, provided it has not been diluted or cream abstracted, and is drawn from healthy cows. (Laws 1889, chap. 425.)

CANADA (PROVINCE OF ONTARIO).

All milk containing less than 13 per cent. of total solids, of which 3¾ per cent. must be chemically dry butter fat, shall be deemed below the standard required in creameries for butter manufacture. (Vict. 51, chap. 31.)

STANDARD FOR QUANTITY OF MILK.

Borden's standard of 8⅝ pounds per gallon is now taken and accepted as the standard of milk, not only in our own country, but in all Europe. (Fifth Annual Report [1889] Mich. Dairymen's Association.)

LAWS RELATING TO MILK.

COLORADO.

Chapter 19, Laws of 1895, prescribes the duties of milk inspectors.

CONNECTICUT.

The Revised Statutes, section 2658, relates to the bringing of milk to butter and cheese factories. Section 2659 provides that the analysis of milk is to be made by the director of the

Connecticut Agricultural Experiment Station. Section 2660 requires the words "skimmed milk" to be stamped, etc., on the can, vessel, etc., from which such milk is sold. By section 2661 the sale of impure or adulterated milk is prohibited. Section 2663 provides that notices of these sections are to be posted in all public places, creameries or factories where milk is received or sold. Under section 2664 the seller of milk (which is the product of any cow adjudged to be affected with tuberculosis or other blood disease) is to be fined not more than $7 or imprisonment not more than thirty days. The violators of the other sections are subject to the same penalty.

GEORGIA.

The sale, exposing for sale or delivery of milk for domestic use of adulterated, skimmed or unwholesome milk, etc., is prohibited; except that buttermilk or skimmed milk can be sold as such. (Laws 1895, No. 207, p. 66.) Law takes effect January 1, 1896.

ILLINOIS.

It is a misdemeanor, punishable by fine or imprisonment or both, to adulterate milk with a view of selling it, or producing milk for market from cows diseased or kept in an improper manner. Cans and vehicles must be marked with the name or names of the seller of the milk and the locality from whence it came, and those used in the sale of skim-milk have the words "skimmed milk" marked on the same. (R. S., p. 461.)

The operators of butter and cheese factories are required to give bonds, with conditions, and make reports. (R. S., p. 461.)

The act approved June 7, 1897, is an act to fix the standard of analysis for milk and reads as follows:

Section 1. "That the standard of analysis for milk in this State as to ingredients, and preparations, shall be: Water, 88 per cent.; milk solids, 12 per cent., and such milk solids shall contain not less than 3 per cent. of butter-fat. When contracts are made for milk purchased within this State, for delivery within or without this State, no other standard shall be used except by special contract in writing."

INDIANA.

It is punishable by a fine of not more than $500 nor less than $50 to knowingly sell or deliver to any cheese or butter manufactory any milk diluted with water or in any way adulterated, keeping back the "strippings," skimmed milk, milk from diseased cows or cows fed on distillery waste or any substance deleterious to the quality of the milk. (R. S., 1888, § 2071.)

IOWA.

The sale of impure milk is unlawful. Skimmed milk is allowed to be sold as such. Milk dealers must obtain permit to sell in cities of over 10,000 inhabitants. A register is to be kept and a record of each analysis. (Laws 1892, chap. 50.)

It is unlawful to knowingly deliver to any cheese or butter manufactory any milk diluted with water or in any way adulterated, or skimmed, with intent to defraud or to knowingly sell the milk from diseased animals, or use any deleterious material in the manufacture of cheese or butter. (C. of Iowa, § 4042, chap. 156.)

Chapter 47 of the Laws of 1894, regulates the use of a chemical milk test of butter fat in milk at creameries, cheese factories and condensed milk factories.

KANSAS.

It is punishable by a fine of not less than $25 nor more than $100 to knowingly bring to any cheese manufactory adulterated milk, skimmed milk, tainted or partially sour milk after due notice of the same, keeping back "strippings," or the using of cream by manufactories without consent of owners. (R. S., § 2410; Laws 1871, chap. 57.)

A later law is substantially the same excepting intent to defraud, bringing milk from diseased cows and knowingly using poisonous or deleterious material in the manufacture of cheese. (G. S., § 2411; Laws 1874, chap. 83.)

KENTUCKY.

The sale of adulterated and impure milk, and its use in the manufacture of butter and cheese, is punishable by a fine of not less than $25 nor more than $200. (Laws 1893, chap. 182.)

MAINE.

Measures to be used in the sale of milk to be annually sealed by wine measure (Laws 1887, chap. 20). Inspectors are to be appointed in towns of not less than 3,000 inhabitants. Milk standard fixed and a provision relating to the feeding of cows. (Laws 1893, chap. 255.)

Chapter 169 of the Laws of 1895 relates to testing-bottles, pipettes and other measuring glasses used in creameries, and to certificate of competency of employes in creameries and providing penalties for the violation of the law.

MASSACHUSETTS.

The transportation of milk on railroads is regulated and discrimination in tariff rates is forbidden. (Laws 1893, chap. 220.)

The wholesale or retail selling or delivering of milk on the Lord's day is allowed. Provision is made for the use of trademarks by persons or corporations manufacturing, bottling or selling milk; the unlawful use of the same is forbidden. (Laws 1893, chap. 440.)

The inspection of animals is required when kept for production of milk. (Laws 1892, chap. 195.)

No producer of milk is liable to prosecution for its quality unless it was taken while under his control by an authorized official and sealed samples of it given to him. (Laws 1894, chap. 425.)

No person shall sell or offer for sale or exchange, in hermetically sealed cans, any condensed milk or condensed skim-milk, unless in cans which are distinctly labeled with the name of the person or company manufacturing said condensed milk or skim-milk, the brand under which it is made, and the contents of the can. Condensed milk sold from cans or packages not hermetically sealed shall be branded or labeled with the name of the manufacturer. Any person violating this provision of the act shall be subject to the same penalties as for the adulteration of milk. (Laws, 1896, chap. 264.)

Chapter 398 of the Laws of 1896 amends section 7 of chapter 57 of the Public Statutes as amended by section 7 of chapter 352 of the Laws of 1885, and provides that when skimmed milk is sold, exchanged or delivered, the vessel, can or package shall be distinctly marked with the words "skimmed milk;" a penalty is provided for the violation of the law. Section 4 of chapter 318, Laws of 1886, is also amended, and forbids the making or causing to be made, using or having in possession any imitation or counterfeit of any seal used by any inspector of milk, collector of samples or other official engaged in the inspection of milk and the changing or in any way tampering with any sample taken or sealed as provided for by this law. The violation of the same is punishable by fine and imprisonment.

MICHIGAN.

Number 219 of the Laws of 1889 amends sections 1 to 5 of the Laws of 1887 and adds new sections. It is unlawful to sell unwholesome milk. No addition of water or ice is an adulteration. Skimmed milk is not allowed to be sold unless notices are displayed by the dealer himself or another with the words "skimmed milk." A standard for milk is established and the duties of inspectors are specified. Penalties are prescribed for the selling of skimmed milk or adulterated milk to a manufactory when milk is a material used in the process of production and, also, for the violation of preceding sections of the law.

MINNESOTA.

Chapter 19, Laws of 1897, amends section 1, chapter 247, Laws 1889, as follows: The sale or exchange, exposing for sale or exchange of any unclean, unhealthy, adulterated or unwholesome milk, or offering for sale any article of food made from the same, or cream from the same, is prohibited. This provision does not apply to pure skim-milk cheese made from milk which is pure, healthy, wholesome and unadulterated, except by skimming. The violation of the provisions of this section is deemed a misdemeanor, and punishable by a fine of not less than ten (10) nor more than fifty (50) dollars, or by imprisonment of not less than one (1) month or more than three (3) months.

Section 2 of said chapter 247 is amended and prohibits the keeping of cows for the production of milk for market or for sale or exchange for manufacturing the same or cream from the same into any article of food, in a crowded or unhealthy condition, or feed the cows on food that is unhealthy or that produces impure, unhealthy, diseased or unwholesome milk. The manufacture of any articles of food from such milk or of cream from the same is also prohibited. Whoever violates the provisions of this section is guilty of a misdemeanor and shall be punished by a fine of not less than twenty-five (25) nor more than (50) dollars, or by imprisonment of not less than one (1) month or more than three (3) months.

Section 3 of said chapter 247 is amended and prohibits the selling, supplying or bringing to be manufactured to any butter or cheese manufactory any milk diluted with water or any unclean, impure, unhealthy, adulterated or unwholesome milk or any milk from which any cream has been taken (except pure skim-milk to skim-cheese factories), the keeping back of any part of the milk commonly known as "strippings," or the bringing or supplying of milk that is sour to any butter or cheese manufactory. No butter or cheese manufactories, except those who buy the milk they use, shall use for their own benefit, or allow any of their employes or any other person to use, of the product thereof brought to said manufactories, without the consent of the owners thereof. Butter or cheese manufacturers, except those who buy all the milk they use, are required to keep a correct account of all the milk daily received, the number of pounds and packages of butter, the number and aggregate weight of cheese made each day, the number of packages of cheese and butter disposed of, which shall be open to inspection to any person who delivers milk to such manufacturers. Whoever violates the provision of this section shall be deemed guilty of a misdemeanor, and shall be punished for each offense by a fine of not less than tèn (10) or more than fifty (50) dollars, or by imprisonment of thirty (30) days.

Chapter 119, Laws 1897, amends section 12 of chapter 247, Laws of 1889, as follows: In all prosecutions under this act relating to the sale of unclean, impure, unhealthy, adulterated or unwholesome milk, if the milk is shown to contain more than eighty-seven (87) per centum of water fluids, or less than thirteen (13) per centum milk solids, of which less than three and one-half (3½) per centum shall be fat, shall be declared adulterated, and milk drawn from cows within fifteen (15) days before and four (4) days after parturition, or from animals fed on distillery waste or brewers' malt, or any unhealthy food whatever, shall be deemed, for the purpose of this act, to be unclean, impure, unhealthy and unwholesome milk. The penalties for the violation of this section are the same as those of section 2 of this act. This section shall not prevent the feeding of ensilage from silos. The selling or exposing for sale of milk from which cream is removed, or milk commonly called skimmed milk, is prohibited, unless the can or package containing the same is marked with the words "skimmed milk," in large, plain black letters, said words to be on top or the side of said can or package, where they can be easily seen. The violation of the provisions of this section is deemed a misdemeanor, punishable by a fine of not less than twenty-five (25) nor more than fifty (50) dollars for each and every offense; in default of payment, by imprisonment in the county jail of not less than thirty (30) days.

MISSISSIPPI.

Milking a cow without the consent of the owner subjects the offender to a fine or imprisonment, or both. (Ann. C. [1892], § 1187.)

MISSOURI.

The Laws of 1891, page 163, relates to the regulation of licenses and inspection of milk.

MONTANA.

Chapter 15 of the Penal Code, section 1095, relates to the keeping of cows or any animals for the production of milk in a crowded or unhealthy place or in a diseased condition, or feeding such cows or animals upon any food that produces impure or unwholesome milk, and a penalty is fixed for the violation of this section.

NEBRASKA.

The bringing of milk to cheese or butter factories or creameries is regulated. (R. S., §§ 5831, 5832.)

NEVADA.

It is a misdemeanor to sell impure, adulterated or unwholesome milk, keeping cows in a crowded or unhealthy condition, feeding the same on food producing unwholesome milk, selling or exchanging as pure milk any from which the cream has been taken except as provided for; the adulteration to consist of the addition of water, milk of animals fed on distillery waste, etc. (Laws 1889, No. 36.)

NEW HAMPSHIRE.

Milk is to be bought and sold by wine measure. Standard, 231 cubic inches to the gallon and for subdivision of gallon in same proportion. Measures to be tested and proved by this standard. Capacity of can, eight quarts of milk. (P. S., chap. 127.)

It is unlawful to sell milk without a license; dealers in milk are to be registered and pay a fee for a license. The sale of skimmilk is regulated. Inspectors may have analysis of milk made and are required to publish the names of persons convicted of selling adulterated milk in two newspapers in the county. (P. S., chap. 127.)

NEW JERSEY.

Milk which has been watered, adulterated or changed in any respect by the addition of water or other substance, or by the removal of cream, or any part thereof, is not allowed to be kept or offered for sale in any city of the first class in the State. (Laws 1885, chap. 185.)

The duties of the milk inspector or his deputy are substantially the same as in New York State. In all prosecutions the defendant may, at the trial, produce competent evidence to show the percentage of milk solids contained in the sample delivered to him, or to his agent or servant. Where the violation charged is the addition of water, or any substance or thing, the defendant may, at the trial, produce competent evidence to show that the same has not been altered or adulterated. (Laws 1891, chap. 210.)

The unlawful use or purchase of milk cans is forbidden. (Laws 1891, chap. 257.)

The use of milk and meat, in case cows are diseased, is prohibited. (Laws 1893, chap. 207.)

OHIO.

It is required by this law that packages containing condensed milk shall be labeled, stamped or marked with the true name, by whom made and under what name made, and from pure, clean, healthy, fresh, unadulterated and wholesome milk from which the cream has not been removed. The selling or disposing of milk falsely branded, labeled or marked as represented as to grade, quality or place is prohibited.

The keeping of cows for the production of milk in a cramped or unhealthy condition, or feeding them on unhealthy food is unlawful.

The selling or offering for sale of any impure or unwholesome milk as " pure milk," milk diluted with water or milk known as skimmed milk is prohibited, but section 2 of this act allows the use of pure skimmed milk in the manufacture of cheese. (Laws 1886, p. 180.)

OKLAHOMA TERRITORY.

The bringing or sending of milk from a diseased cow to any person or corporation, to be used in the manufacture of butter or cheese, or the selling or furnishing of such milk to any other person to be used in any manner whatever, or any milk adulterated by deleterious substances or adulterated with water, or colored by any substances whatever, is punishable by a fine or imprisonment, and shall be liable to the wronged party in a sum not less than $50. (C. S., chap. 25; P. C., § 8.)

OREGON.

Manufacturers of butter or cheese from milk of cows not owned by manufacturer are required to report to the dairy and food commissioners every three months, as follows: Name of manufacturer, owner of cows, number of pounds of milk purchased, number of pounds of milk used for butter and cheese, number of pounds made, and number of pounds sold. (Laws 1893, p. 99.)

PENNSYLVANIA.

The selling of adulterated milk is prohibited in cities of second or third class. Sales of milk as pure milk, from which cream has been taken, is unlawful. Milk from which cream has been taken is to be sold from vessels marked "skimmed milk," inspector to take specimens for examination and test the same, and the result may be *prima facie* evidence in prosecutions; he may cause an analysis to be made, the certificate of analysis to be admissible evidence in prosecutions; the cost of such analysis, if not exceeding twenty dollars, may be included in the costs of prosecuting proceedings to be brought in the name of the board of health. (Laws 1885, No. 186.)

Chapter 835 of the Laws of 1890 regulates the railroad rates for the transportation of milk.

Milk inspectors are required to take two samples of every portion of suspected food products. (Laws 1891, chap. 979.)

No. 118, Laws 1897, is "An act to prohibit the adulteration or coloring of milk or cream by the addition of so-called preservatives or coloring matter, and to provide for the enforcement of the same," and reads as follows:

Section 1. "That the sale or offering for sale of milk or cream for human consumption in this Commonwealth to which has been added boracic acid, salt, salicylic acid, salicylate of soda, or any other injurious compound or substance for artificially coloring the same, shall be a misdemeanor, and punishable by a fine of not less than fifty nor more than one hundred dollars, or imprisonment not exceeding sixty days, or both, or either, at the discretion of the court."

§ 2. "The agent of the Department of Agriculture, known as the Dairy and Food Commissioner, shall be charged with the enforcement of all of the provisions of this act, and shall have all the power to enforce this act that is given him to enforce the provisions of the act by which he receives his appointment.

§ 3. "All penalties and costs for the violation of the provisions of this act shall be paid to the Dairy and Food Commissioner or his agent, and by him paid into the State Treasury, to be kept as a fund, separate and apart, for the use of the Department of Agriculture for the enforcement of this act, and to be drawn out upon warrant signed by the Secretary of Agriculture and the Auditor-General."

§ 4. "All acts and parts of acts inconsistent with the provisions of this act are hereby repealed."

SOUTH CAROLINA.

The sale of milk which is unclean, impure, unwholesome, adulterated or skimmed is prohibited; except that the sale of buttermilk or skimmed milk is allowed when sold as such. (Laws 1896, No. 96, p. 215.)

TENNESSEE.

The use of skimmed milk is allowed in the manufacture of butter and cheese. (Laws 1879, chap. 169.)

UTAH.

It is unlawful to offer for sale, have in possession with intent to sell or furnish to any person whatever any adulterated or impure milk. Milk that is diluted or drawn from cows diseased is deemed adulterated and impure. The sale of skimmed milk is allowed if the vessel or package containing the same is distinctly marked with the words "skimmed milk." Proof of adulteration and skimming may be made with standard tests and lactometers or by chemical analysis. The sale, having in possession with intent to sell or delivering to a creamery or cheese factory of milk to which boracic acid or salicylic acid or compounds containing these or other antiseptics injurious to health have been added is declared a misdemeanor punishable by fines for each offense. The manufacturing, buying, selling, offering or having in possession for sale of cheese manufactured from skimmed milk to which has been added any fat which is foreign to such milk is prohibited. (Laws 1896, chap. 60.)

VERMONT.

The selling of diluted, adulterated or skimmed milk is unlawful. When samples are taken duplicates are to be given to the dealers from whom taken, when requested, and a written receipt given to the person taking the sample. The label on the sample shall state time, place, where and from whom taken, and in the presence of one or more disinterested witnesses.

Branding butter or cheese as "creamery" which is not manufactured at a creamery is unlawful; provided that butter or cheese made at private creameries may be branded, marked, etc., with name of maker or some other distinguishing trade-mark. Justices are to have concurrent jurisdiction with the county court in prosecution under this act. (Laws 1888, No. 108.)

VIRGINIA.

The bringing of adulterated or skimmed milk to cheese or butter manufactories without the consent of all the owners of the same, is punishable by a fine of not less than twenty-five nor more than one hundred dollars. (C. of V., § 1899.)

WASHINGTON.

Chapter 15, Laws 1897, amends section 2, Laws 1895; and section 1 of said act (1897) reads as follows:

"In all prosecutions or other proceedings under this or any other law of this State, relating to the sale or furnishing of milk, if it shall be proven that the milk sold or offered for sale, or furnished or delivered, or had in possession with intent to sell, or offer for sale or to furnish or deliver aforesaid, as pure, wholesome or unskimmed milk, contains less than three per centum of pure butter fat, or less than 8 per centum of milk solids other than fat, when subjected to chemical analysis or other satisfactory test, or it had been diluted or any part of its cream abstracted, or that it (or any part of it) was drawn from cows known by the person complained of to have been within fifteen days before or four days after parturition, and to have any disease or ulcers or other running sores, then, and in either case the said milk shall be held and judged to have been unmerchantable, adulterated, impure or unwholesome, as the case may be; and if it shall appear that cows kept for the production of milk or cream, for market or for sale or exchange, or for manufacturing their milk into articles of food, are kept in a crowded or unhealthful condition, or are being fed on undried brewer's grains, or upon any substance of an unhealthful nature, the milk or the cream from the same is hereby declared impure and unwholesome. Any milk or cream from the same that has been exposed or contaminated by emanations, discharges or exhalations from persons or animals, or to which has been added any borax, boracic acid, salicylic acid, or any other poisonous substance which prevents or tends to prevent the normal bacterial actions of milk, is hereby declared to be impure and unwholesome."

WISCONSIN.

It is unlawful to sell, offer for sale, have in possession with intent to sell or furnish to any creamery or cheese factory, as pure, wholesome and unskimmed any unmerchantable, adulterated, impure or unwholesome milk. In all prosecutions relating to the sale or furnishing of milk if it is shown that it contains less than 3 per centum of butter fat, or is diluted or has had cream extracted, etc., it shall be adjudged unmerchantable and adulterated, impure or unwholsome, as the case may be. (Laws 1889, chap. 425.)

The addition of foreign fat to milk used in the manufacture of skimmed milk cheese is prohibited, as is, also, the sale of the same. (Laws 1895, chap. 30.)

The sale, etc., of milk, cream, butter, cheese or other dairy products, or delivering to any creamery or cheese factory milk or cream to be manufactured into butter or cheese, to which boracic acid, salicylic acid or compounds containing them or other antiseptics injurious to health has been added is prohibited. (Laws 1895, chap. 168.)

Section 1 of chapter 425 of the Laws of 1889 is amended by striking out the word " ten " where it occurs in said section and inserting the words " twenty-five," so that said section reads as follows:

Section 1. "Any person who shall sell or offer for sale, or furnish or deliver, or have in his possession, with intent to sell or offer for sale, or furnish or deliver to any creamery, cheese factory, corporation, person or persons, whatsoever, as pure, wholesome and unskimmed, any unmerchantable, adulterated, impure or unwholesome milk, shall, upon conviction thereof, be punished by a fine of not less than twenty-five nor more than one hundred dollars for each and every offense." (Laws 1897, chap. 106.)

Chapter 94, Laws 1897, is an act to secure cleanliness in milk dairies, and reads as follows:

Section 1. "The dairy and food commissioner, or his agents, shall have full access and ingress to all premises, buildings, or dairies where milk is stored, produced or handled for the city milk trade, and is hereby empowered to enforce such measures as may be necessary to prevent the sale of milk from diseased cows, or from cows fed on unwholesome food, and to require cleanliness in all barns, stables, milk houses or buildings where milk is produced or stored for the city milk trade.

§ 2. "Any person or persons owning or managing a dairy, the product of which is sold as milk for family use, shall feed his cows upon wholesome food; keep them when housed, in clean and comfortable stables, and handle the milk with clean utensils.

§ 3. "Any person or persons violating any of the provisions of this act, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, be fined not less than twenty-five nor more than one hundred dollars for the first offense, and not less than one hundred nor more than two hundred for each subsequent offense."

CANADA — PROVINCE OF ONTARIO.

Chapter 48 of Victoria 56 relates to the prevention of fraud in the sale of milk and applies to cities and towns only. It provides a penalty for selling adulterated or deteriorated milk. The sale of skimmed milk is allowed if the buyer is apprised of the fact that it is skimmed. The jurisdiction of cases is stated and there is a provision for the application of penalties and a civil remedy for person aggrieved.

Chapter 32 of Victoria 51, as amended by chapter 53 of Victoria 55 and chapter 54 of Victoria 57, relates to the supplying of milk to cheese or butter manufactories and requires that notices are to be given when milk is diluted, etc.; when any part is kept back, and when tainted or partly sour milk is brought. This is not to apply in case an offense is charged, if the defendant shows want of knowledge of the dilution or adulteration. The owner or manager of a cheese or butter manufactory is given the right to test the milk of any cow or cows which is brought to the manufactory; the right is also given to take samples of the same and it shall be sufficient *prima facie* evidence of the violation of the law that the defendant, by himself or another, brought milk to be manufactured which is substantially below the standard of that actually drawn from the cow. In case of any complaint made under the first three sections of this act the milk may be described as deteriorated milk. In the recovery and application of penalties one-half is payable to the complainant and the other half to the patrons of the manufactories. Penalties are prescribed for the violation of the law.

BUTTER STANDARD.

OREGON.

Butter that contains more than 14 per cent. of water is deemed adulterated. (Laws 1893, p. 99.)

CHEESE STANDARD.

CALIFORNIA.

California full-cream cheese, 30 per cent. butter fat.

California half-skim cheese, 15 per cent. butter fat.

California skim cheese, pure skim milk.

This standard does not include "Edam," "Brickstein," "Pine Apple," "Limburger," "Swiss" or hand-made cheese not by the ordinary Chedder process.

COLORADO.

Colorado full-cream cheese, 35 per cent. butter fat.

Skim cheese, all less than 35 per cent. butter fat.

Imitation cheese.—All cheese into which any foreign fat or other oleaginous substance or substances, or the fat from stale, rancid, foul or impure butter has been introduced.

MINNESOTA.

Minnesota State full-cream cheese, 45 per cent. butter fat.

Skim cheese, if it contains less than 45 per cent. butter fat.

MISSOURI.

Full cream cheese, 3 per cent. butter fat.

Skim-milk cheese, less than 3 per cent. butter fat.

PENNSYLVANIA.

Full cream, 32 per cent. butter fat.

Three-fourths cream, 24 per cent. butter fat.

One-half cream, 16 per cent. butter fat.

One-fourth cream, 8 per cent. butter fat.

Skimmed cheese, less than 8 per cent. butter fat.

WASHINGTON.

Washington full cream cheese, 30 per cent. pure butter fat. Skimming not allowed. Neither the filling of the cheese with fats of any kind.

Half-skimmed cheese, 15 per cent. pure butter fat, not more than half of the cream extracted.

Skimmed cheese, pure skimmed milk.

This standard does not include "Edam," "Brickstein," "Pine Apple," "Limburger," "Swiss" or hand-made cheese or other cheese not made by ordinary Chedder process.

GRADING AND BRANDING OF CHEESE.

CALIFORNIA.

"Every person or persons, firm, or corporation, who shall at any creamery, cheese factory or private dairy, manufacture cheese in the State of California, shall, at the place of manufacture, brand distinctly and durably on the bandage of each and every cheese manufactured, and upon the package or box, when shipped, the grade of cheese manufactured, as follows: 'California Full-Cream Cheese,' 'California Half-Skim Cheese,' and 'California Skim Cheese.'" The State Dairy Bureau is "Directed and authorized to issue to all persons, firms, or corporations, upon application therefor, uniform brands, consecutively numbered, of the different grades specified in section 1 of this act." A record is to be kept "of each and every brand issued and the name and location of the manufacturer receiving the same. No manufacturer of cheese in the State of California, other than the one to whom such brand is issued, shall use the same, and in case of a change of location, the party shall notify the Bureau of such change." The different grades of cheese are defined. Cheese manufactured from pure milk, from which no portion of the butter fat has been removed by skimming or other process and having not less than 30 per cent. of butter fat, shall be branded as "California Full-Cream Cheese." Cheese made from pure milk and having not less than 15 per cent. of butter fat, shall be branded "California Half-Skim Cheese," and cheese made from pure skim-milk shall be branded "California Skim Cheese;" provided that the provisions of this section shall not apply to "Edam," "Brickstein," "Pine Apple," "Limburger," "Swiss" or hand-made cheese, not made by the ordinary Chedder process. The selling or offering for sale of any cheese manufactured in the State of California, not branded by an official brand and of the grade defined in this act, is prohibited. The violation of any of the provisions of this act is deemed a misdemeanor and punishable for the first offense by a fine of not less than twenty-five dollars (25), nor more than fifty dollars (50), or by imprisonment in the county jail for not exceeding twenty-five days; and for each subsequent offense, by a fine of not less than fifty dollars (50), nor more than one hundred (100), or by imprisonment in the county jail not less than fifty days nor more than one hundred days, or by both such fine and imprisonment, at the discretion of the court. All acts and parts of acts inconsistent with this act are repealed. (Laws 1897, chap. 76.)

COLORADO.

Manufacturers of factory-made cheese are required to distinctly stamp and grade the same as Colorado "full cream," "skim," or " imitation " cheese.

All cheese containing not less than 35 per cent. of butter fat in comparison with the total solids shall be branded " Colorado full cream cheese." All containing less than the above prescribed amount of fat shall be branded " skim cheese." All cheese into which any foreign fat or other oleaginous substance or substances, or the fat from stale, rancid, foul or impure butter has been introduced, shall be branded " imitation cheese." The State dairy commissioner is authorized to issue, upon proper application therefor, uniform stencils or brands, to be used as required by the act. (Laws 1895, chap. 19.)

MICHIGAN.

Act No. 118, Laws 1897, amends Act No. 193, Public Acts of 1895, and reads as follows:

Section 6. "Every manufacturer of full milk cheese may put a brand upon each cheese, indicating 'Full Milk Cheese,' and no person shall use such a brand upon any cheese made from milk from which any of the cream has been taken. It shall be the duty of the proprietors of every cheese factory, creamery or butter factory in the State, where milk or cream is purchased of or contributed by three or more persons, to register the location of such cheese factory, creamery or butter factory, and the name of the owner or manager, with the Dairy and Food Commissioner on or before the first day of October, A. D. eighteen hundred ninety-seven, and on or before the first day of April in each year thereafter. Whoever violates any of the provisions of this section, in so far as it relates to registration, shall be deemed guilty of a disdemeanor, and for each and every offense shall be punished by a fine of not less than five dollars nor more than twenty-five dollars and the costs of prosecution, or by imprisonment in the county jail for not more than thirty days, or both."

§ 7. "The Dairy and Food Commissioner shall procure and issue to the cheese manufacturers of the State, on proper application, which application shall be made on or before the first day of October, A. D. eighteen hundred ninety-five, and on or before the first day of April in each year thereafter, and under such regulations as to the custody and use thereof as he may prescribe, a uniform stencil brand, bearing a suitable device or motto, and the words, 'Michigan full cream cheese.' Every such brand shall be used on the outside of the cheese, and upon the package containing the same, and shall bear a separate number for each separate factory. The said Commissioner shall keep a book in which shall be registered the name, location and number of each manufactory using the brand, and the name or names of persons at each factory authorized to use the same. No such brand shall be used on other than full cream cheese or package containing the same. The Commissioner shall receive a fee of one dollar for each registration, said fee to be paid by the party applying for the same, which amount shall be accounted for and used as a part of the fund appropriated for the enforcement of the laws of this State with which the Dairy and Food Commissioner is charged."

§ 8. "No person shall knowingly offer, sell or expose for sale, in any package, cheese which is falsely branded or labeled."

MINNESOTA.

Chapter 119, Laws 1897, amends section 7 of chapter 247 of the Laws 1889:

"No person shall offer, sell or expose for sale, butter or cheese branded or labeled with a false brand or label as to the quality of the article or the county or State in which the article is made. The Minnesota State dairy and food commissioner is hereby authorized and directed to procure and issue to the cheese manufacturers of the State, and under such regulations as to the custody and use thereof as he may prescribe, a uniform stencil brand bearing a suitable device or motto, and the words, 'Minnesota State Full Cream Cheese.' Every brand issued shall be used upon the outside of the cheese, and also upon the package containing the same, and shall be a different number for each separate manufactory, and the commissioner shall keep a book, in which shall be registered the name, location and number of each manufactory using the said brand, and the name or names of the persons at each manufactory authorized to use the same. It shall be unlawful to use or permit such stencil brand to be used upon any other than full cream cheese, or packages containing the same. Minnesota State full cream cheese, of which there be less than forty-five (45) per centum of fat to total solids shall be deemed for the purpose of this act to be adulterated. Whoever violates the provisions of this section shall be deemed guilty of a misdemeanor, and for each and every cheese or package so falsely branded, shall be punished by a fine of not less that twenty-five (25) dollars, or more than fifty (50) dollars, or imprisonment of not less than fifteen (15) days or more than thirty (30) days."

Chapter 119, Laws 1897, repeals section 17 of the Laws of 1889, and substitutes the section known as 17.

"All cheese which contains less than forty-five (45) per centum of fat to total solids is declared to be 'skim cheese,' and it is required that the same shall be marked with the words 'skim cheese,' upon the circumference of the cheese, and upon the outer surface of the bars or packages containing the same; and any dealer or trader, who by himself, or as the servant or agent of another person, has in his possession with intent to sell, offers or exposes for sale or sells, any skim cheese as hereinbefore defined, which is not stenciled or branded as hereinbefore required and directed, shall be deemed to be guilty of a misdemeanor, and shall be subject to the penalties provided in this section. Every dealer or trader who offers or exposes for sale or sells skim cheese as hereinbefore defined, shall cause to be kept continuously posted in a conspicuous position upon the walls of the room wherein such skim cheese is offered or exposed for sale or sold, cards, upon the face of which is distinctly and legibly printed in the English language, and in letters of sufficient size to be visible from all parts of the room, the words 'skim cheese sold here.' Any person or firm violating any of the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction shall be subject to a fine of not less than twenty-five (25) dollars, nor more than one hundred (100) dollars, or to imprisonment for not less than thirty (30), nor more than ninety (90), days for each offense. Provided, That nothing contained in this section shall be deemed to conflict with section six (6), of said chapter two hundred and forty-seven (247)."

MISSOURI.

The manufacturing, selling or offering for sale, directly or indirectly of skimmed milk cheese is prohibited, unless such cheese shall be branded or labeled, in a conspicuous place, with black letters not less than one inch in length and of large size, in the English language, as follows: "Skimmed milk cheese," or with the words "Not full cream cheese," giving the true name of such article clearly and indelibly branded, so that the same can be distinctly read, "at all stores or places where the same may be offered for sale." All cheese manufactured, sold or offered for sale, made from milk or cream of the same, which test not less than 3 per cent. of butter fat, shall be deemed to be a full cream cheese; and all cheese manufactured, sold or offered for sale, made from milk or cream of the same testing less than 3 per cent. of butter fat, shall be deemed "skimmed milk cheese," or cheese not made from pure unskimmed, unadulterated milk or cream of the same. The violation of any of the provisions of sections 1 or 2 of this act is deemed a misdemeanor, punishable by confinement in the county jail not exceeding one year or fined not less than $10, nor exceeding $500, or both. The shipping, consigning or forwarding by any common carrier, whether public or private, of unbranded skim milk cheese is prohibited. "Provided, That this act shall not apply to any goods in transit between foreign States across the State of Missouri. Any person violating this section shall be deemed guilty of a misdemeanor, and upon conviction shall be fined a sum not less than $10, nor more than $500." An action cannot be maintained on account of any sale or other contract of unbranded skim-milk cheese.

"Whoever shall efface, erase, conceal or remove any marks or labels on any such article of cheese, provided for by this act, with intent to mislead, deceive or to violate any of the provisions of this act, shall be deemed guilty of a misdemeanor, and on a conviction be fined a sum not less than $50 or more than $500." The State Board of Agriculture is charged with the enforcement of this act. "Provided, That all fines collected under the provisions of this act shall be conveyed into the State treasury. Action under the act may be brought by information or indictment in any court of competent jurisdiction." "All acts and parts of acts inconsistent with this act are hereby repealed." (Laws 1897, p 105-106.)

NORTH DAKOTA.

Cheese factories, creameries, or combined cheese factories and creameries, are required to procure a stencil or brand bearing a suitable device and words clearly designating the quality of the product manufactured, the number and location of the factory, and may contain a special or private brand or name of said factory; every brand shall be used upon the outside of the cheese and also upon the package containing the same, but in the case of butter, on the package only, and shall report annually to the commissioner of agriculture and labor, who, by virtue of his office, is State dairy commissioner, the name, location and number of each factory using said brand, and the name or names of the persons at each manufactory authorized to use the same, together with a copy of such stencil or brand; and the State dairy commissioner shall keep a book in which shall be registered the same. The violation of this provision of this chapter is deemed a misdemeanor and is punishable by a fine of not less than $10 nor more than $50 for each and every offense. (P. C.; R. C., 1895, chap 67, § 7646.)

When imitation cheese or "filled cheese" is sold or manufactured it is required that each package of the same shall be stamped on the top and side, with lampblack and oil, the words, "filled cheese," or words that shall designate the exact character and quality of the product. It is deemed a misdemeanor to violate this provision, and is punishable by fine or imprisonment or both. (P. C.; R. C., 1895, chap. 67, § 7641.)

OHIO.

The act of 1894, passed May 19th, is repealed and a law similar to the New York law takes its place, except that the date and year is to be put on the cheese when made. An application for a brand shall be made on or before the 1st day of April of each year, and a registration fee of one dollar is required. The stencil brand to be issued shall bear a suitable device or motto and the words "Ohio State full cream cheese." The manufacture and sale of pure skimmed cheese is permitted. Branding is voluntary and a penalty is prescribed for the violation of the law. The branding of "filled cheese" and "skimmed cheese," is also required, and a penalty is prescribed for traffic in, violation of, intentional deception, etc. (Laws 1896, No. 67, p. 51.)

PENNSYLVANIA.

No. 164 of the Laws of 1897 requires that all cheese manufactured or sold within this Commonwealth shall be divided into five grades, and shall be branded or stenciled in ordinary bold-faced capital letters, not less than one inch in height on two sides of each cheese, and upon the top and bottom of the box or case containing the cheese, the manufacturer's name and post-office address, and the words "full cream," "three-fourths cream," "one-half cream," "one-fourth cream," and "skimmed cheese." All cheese branded "full cream" shall contain not less than thirty-two per centum of butter fat, as may appear by proper test. All cheese branded "three-fourths cream" shall contain not less than twenty-four per centum of butter fat, as may appear by proper test. All cheese branded "one-half cream" shall contain not less than sixteen per centum of butter fat, as may appear upon proper test.

All cheese branded "one-fourth cream" shall contain not less than eight per centum of butter fat, as may appear upon proper test. And all cheese containing less than eight per centum of butter fat, as may appear upon proper test, shall be branded "skimmed cheese."

The making or selling of cheese in any way adulterated by addition of foreign fats or other substances is prohibited, and every violation of the law shall be punished by the payment of not less than fifty dollars nor more than one hundred dollars, together with all costs and expenses for inspection and analysis connected therewith and by forfeiture or spoilation of the cheese adulterated or wrongly branded. "Fancy cheese" under five pounds in weight, and cottage or pot-cheese are exempt from the provisions of this act.

UTAH.

Skimmed milk cheese must be not less than nine nor more than eleven inches in diameter, and not less than nine inches in height. (Laws 1896, chap. 60, p. 165.)

WASHINGTON.

Chapter 15, Laws 1897, amends section 3, Laws of 1895, and section 3 of said act (1897), reads as follows:

" Every person who shall, at any factory in the State, manufacture cheese, shall stamp in a distinct and durable manner on each and every cheese manufactured by him, whether Chedder, twin, flat or Young America, or by whatever name or style known, before the sale thereof in full face capital letters not less than one inch high, in ordinary stamping ink, either red, black, green, purple or violet in color, and of such composition as not to be easily removed or wholly obliterated by moisture, the grade of the same, in the following named letters and words: 'Washington full cream,' 'Skimmed,' or 'Half-Skimmed,' as the case may be, together with name of the factory, and the name of the city, town or village where the said factory is located; and such cheese only as shall contain 30 per centum of pure butter fat, and have been manufactured from pure and wholesome milk from which no portion of the butter fat shall have been removed by skimming, or by other process, and in the manufacture of which neither butter, nor any substance for butter, or other animal or vegetable fats or oils have been used, or any fat which has been extracted from milk in any form and returned for the purpose of filling said cheese, shall be stamped 'Washington full cream,' and such cheese only as shall be made from pure milk having not more than one-half of the cream thereof extracted, leaving in said cheese not less than 15 per centum of pure butter fat, shall be marked 'Half-skimmed,' and such cheese only as shall be made from pure skimmed milk shall be marked 'Skimmed,' and it shall be the duty of every person who shall sell or offer for sale in this State any cheese not made in this State, to stamp said cheese in a manner similar to that required in the case of cheese made in this State with the following letters and words: 'Full Cream,' 'Skimmed,' or 'Half-Skimmed,' as the case may be. Provided that cheese not made in this State, but which shall be sold or offered for sale in this State, be not already so stamped as to indicate its true character. Provided further, that no cheese shall be stamped 'Full Cream' which does not in every particular comply with the requirements of 'Washington full cream' cheese, as hereinbefore set forth, except as to place of manufacture. And provided further that nothing in this section shall be construed to apply to Edam, Brickstein, Pine Apple, Limburger, Swiss or hand-made cheese, or other cheese, by whatever name or style known, not made by ordinary Chedder process."

WISCONSIN.

Full cream cheese must be stamped "Wisconsin full cream cheese;" all other cheese must be stamped "Wisconsin skimmed cheese." (Laws 1893, chap. 228.)

It is unlawful to manufacture, buy, sell, offer, ship, consign, expose or have in possession for sale, within the State, any skimmed milk cheese, excepting when such cheese is 10 inches in diameter and 9 inches in height. (Laws 1895, chap. 30.)

OLEOMARGARINE, ETC., IN PUBLIC INSTITUTIONS.

The use of oleomargarine, butterine, etc., in public institutions is prohibited in the following States:

California, Laws 1897, chapter 75; Michigan, Laws 1891, chapter 45; New York, Laws 1893, chapter 364; Ohio, Laws 1886, 1883, old law, chapter 178; Pennsylvania, Laws 1893, chapter 65; Utah, Laws 1896, chapter 60; Wisconsin, Laws 1891, chapter 165.

LAWS RELATING TO OLEOMARGARINE, BUTTERINE, ARTIFICIAL, ADULTERATED OR IMITATION BUTTER AND CHEESE.

ALABAMA.

Chapter 408 of the Laws of 1895 prohibits the manufacture and sale of imitations of butter as genuine.

ARKANSAS.

The sale of adulterated butter, oleomargarine or butterine is allowed if stamped, labeled or marked with the words "Adulterated butter," oleomargarine," or "butterine." (Laws 1885, act 127.)

CALIFORNIA.

Imitation butter and imitation cheese is defined; the use of salt, rennet and harmless coloring matter in the product of pure milk (or cream) and the use of pure skimmed milk in the manufacture of cheese is allowed. The manufacture and sale of imitation butter and cheese with intent to sell or use or serve to patrons, guests, etc., in hotels, eating-houses, etc., is prohibited unless it is manufactured and sold under the regulations hereinafter provided for and in such a manner as will advise the consumer of its real character, free from coloration or ingredient, that causes it to look like butter or cheese made from pure milk or cream the product of the dairy.

It is required that substitutes for butter and cheese lawfully manufactured must be branded with the words "substitute for butter," or "substitute for cheese," and a statement giving the name and address of the manufacturer, the name of the place where manufactured or put up and the names and actual percentage of the various ingredients used in its manufacture, and a copy of said statement shall be placed upon the contents of each package containing the same and also a copy affixed thereto. The knowingly shipping, consigning or forwarding by any common carrier of imitation butter or cheese is prohibited as is also the knowingly receiving the same by any carrier for the purpose of forwarding or transporting unless it is marked and labeled (with copy of statement) as required by this act; provided, that this act shall not apply to any goods in transit between foreign States and across the State of California. The knowingly having in possession or control of imitation butter or cheese is prohibited unless it be marked and labeled with copy of statement as provided for by this act; *provided*, that persons having the same in their possession for the actual consumption of themselves and families are exempt from this provision of this act. The selling, offering for sale, or taking orders for future delivery of imitation butter or cheese is prohibited unless the purchaser is informed at the time of the sale that the same is a substitute for butter or cheese, and the delivery to him of a copy of the statement described in this act and the use in connection with the sale or advertisement of imitation butter or cheese of the words, "butterine," "creamery," or "dairy," or the representation of any brand of dairy cattle, or any combinations of such words and representations, or any other words or symbols commonly used by the dairy industry in the sale of butter or cheese, is forbidden.

Keepers or proprietors of bakeries, hotels, boarding houses, etc., or any person having charge thereof, or employed thereat, or any person furnishing board for others than members of his own family or as a compensation to employes, are forbidden to place before any patron or employe for use as food any substance designed to be used as a substitute for butter or cheese unless the same is accompanied by a copy of the statement described in this act, and a verbal notification to said patron that such substance is a substitute for butter or cheese. An action cannot be maintained on account of any sale or other contract made in violation of, or with intent to violate this act by or through any person who was knowingly a party to such wrongful sale or other contract. The having in possession or control of imitation butter or cheese which is not marked as is required by this act is presumptive evidence of the knowledge that the same was imitation butter or imitation cheese. The effacing, erasing, canceling or removing of any mark, statement or label provided for in this act with intent to mislead, deceive or violate any of its provisions is prohibited. Charitable or penal institutions receiving assistance from the State are *prohibited* from using butter or cheese not made wholly from pure milk or cream, salt and harmless coloring matter. The violation of any of the provisions of this act is deemed a misdemeanor punishable by fine or imprisonment or both, in the discretion of the court, and one-half of the fines collected is to be paid to the person or persons furnishing information upon which conviction is procured. The possession or control of any imitation butter or cheese contrary to the provisions of this act shall be construed as having in possession with intent to use it as a means of committing a public offense, within the meaning of the Penal Code; *provided*, that when a search warrant is issued for imitation butter or cheese, it is the duty of the officers serving the same to deliver to the agent of the Dairy Bureau a perfect sample of each article seized by virtue of such warrant, for the purpose of analysis, returning to the persons from whom it was taken the remainder of each article seized as aforesaid. If any sample be found to be imitation butter or cheese, it is to be retained by the magistrate (for the purpose contemplated by the Penal Code), but if found not to be imitation butter or cheese, it is to be returned to the person from whom it was taken. The district attorney is to attend upon the application of the Dairy Bureau to the prosecution, in the name of the State, of any suit brought for the violation of any of the provisions of this act in his district. The Governor is to appoint three resident citizens to constitute a State Dairy Bureau. The members are to serve without compensation, are subject to removal by the Governor for neglect or violation of duty, and are required to report in detail to the Legislature not later than the first day of December next preceding the meetings thereof. It is made the duty of the State Dairy Bureau to enforce this act, and it is empowered to appoint a clerk and such assistants and chemists as may be necessary therefor. An appropriation of $5,000 is made for the use of the State Dairy Bureau and all acts and parts of acts inconsistent with this act are repealed. (Chapter 75, Statutes of 1897, p. 65).

COLORADO.

The manufacture and sale of oleomargarine is permitted if license is obtained, packages marked and purchasers notified of the character of the article. (Laws 1885, also 1887). Chapter 125 of the Laws of 1893 is substantially the same. License fee is fixed as follows: Manufacturers of oleomargarine, $250; wholesale dealers, $125; retail dealers, $25 per annum. Hotels, restaurants, etc., are to keep posted notice of character of article used therein; fine to go to general school fund.

Chapter 19 of the Laws of 1895 makes it a misdemeanor, punishable by a fine, to manufacture, sell and use imitations of butter and cheese unless the consumer is made aware of the real character of the substance manufactured or sold.

CONNECTICUT.

Chapter 114 of the Laws of 1893 amends section 2614 of the general statutes and defines the meaning of imitation butter; it also amends section 2615 and prohibits the manufacture, sale, etc., of imitation butter; provided, that oleomargarine may be manufactured and sold if the consumer is advised of its real character, etc. The sale, etc., of imitation butter is also allowed if signs are used by the seller on the premises where sold or from a wagon with the words "sold here" or "delivered here," preceded by the name of the imitation article; the buyer is to be informed that the article he buys is not butter and its name is to be given. All sellers of imitation butter are required to register annually. The dairy commissioner is to furnish the signs prescribed at actual cost. Penalties are fixed for the violation of the law and evidence of the violation shall be *prima facie* evidence of willful violation with knowledge.

Chapter 171, Laws 1897, is an act concerning imitation butter and amends section 2618 of the General Statutes.

The Governor shall appoint a Dairy Commission who may appoint and remove a deputy, who may also act as clerk, and it is made his duty to enforce this chapter throughout the State. "The Dairy Commissioner and his deputy shall have free access, at all reasonable hours, for the purpose of examining into any suspected violation of this chapter, to all places and premises, apartments of private families, keeping no boarder excepted, where the Dairy Commissioner or his deputy suspects imitation butter to be made, sold, used, kept or stored in transit; and on tender of the market price of good butter for the same, may take from all persons, firm; or corporation, samples of any articles suspected to be imitation butter; and it shall be the duty of the agents of railroad and express companies having knowledge or record of any consignment of imitation butter to inform the commissioner or his deputy of such consignment and the name of the consignee when requested by said commissioner or his deputy. The Dairy Commissioner may have samples suspected to be imitation butter analyzed at the Connecticut Experiment Station, or by any State chemist and a sworn or affirmed certificate of the analyst shall be *prima facie* evidence of the ingredients and constituents of the sample analyzed. Any one refusing the Dairy Commissioner or his deputy access, in a reasonable manner and at a reasonable time, to premises for said purpose of examination, or refusing to sell samples, as hereinbefore provided for, shall incur the penalty hereinafter first provided for violations of this chapter.

DELAWARE.

It is unlawful to manufacture, sell, offer for sale, or have in possession with intent to sell, any article or substance designed to take the place of butter or cheese, not made of unadulterated milk or cream, and every sale of such article or substance is unlawful and void, and no action can be maintained to recover upon any contract for the sale of the same. (Laws 1887, chap. 231.)

The Legislature petitioned Congress to pass a law restoring the control of the traffic in oleomargarine to the States, as has been done in the matter of the liquor traffic, session of 1891, and the Dairy Protective Association of Delaware was incorporated for the enforcement of laws for the protection of dairy interests. (Laws 1891, chap. 176.)

DISTRICT OF COLUMBIA.

The manufacture and sale of imitation butter is permitted if packages containing the same are stamped, branded and marked with the word "oleomargarine." In retail sales a label with the same word is required. (C. S., p. 177.)

FLORIDA.

The knowingly and willfully selling, or causing to be sold, as butter, any spurious preparation purporting to be butter is punishable by imprisonment or fine, and hotel and boarding-house keepers who supply their guests with oleomargarine or spurious preparations without giving notice of the character of the same are subject to the same penalty. (Laws 1881, chap. 3280.)

GEORGIA.

Imitation butter or cheese is defined to be "every article, substance or compound other than that produced from pure whole milk, or cream from the same, made in the semblance of butter or cheese, and designed to be used as a substitute for butter or cheese made from pure milk or cream from the same," except that salt, rennet and harmless coloring matter, when used, shall not render such product an imitation. The coating, powdering or coloring of any substance to be used as a substitute for butter or cheese causing such substance or product to resemble butter or cheese the product of pure milk or cream is prohibited, as is also the combination of animal fats, etc., with butter or cheese or the coloring of such substitutes a yellow color to resemble genuine butter or cheese. The use of salt, rennet or harmless coloring matter is permitted. The manufacture, sale, keeping or offering for sale of imitation butter or cheese is prohibited except under certain regulations, such as the branding, stamping, or stenciling upon the top or side of each tub, box or other vessel in which such substitutes for butter or cheese shall be kept with the words " substitute for butter " or " substitute for cheese." The possession or control of any substitutes for butter or cheese not marked is forbidden, except when in possession of a person for actual consumption of himself or family. The selling or offering for sale of imitation butter or cheese under pretense of being genuine is forbidden, unless the purchaser is notified at the time of the sale that the same is imitation of butter or cheese and delivering to him a printed statement that it is such containing the name and address of the producer of such imitation. The use of imitation butter or cheese by hotels, boarding-houses, etc., is not allowed unless the proprietor or keeper shall keep constantly posted in a conspicuous place a white card with the words " imitation butter used here " or " imitation cheese used here."

Penalties are prescribed for the violation of this act. It repeals all laws in conflict with the act and takes effect from and after May 1, 1896. (Laws 1895, No. 207.)

IDAHO.

The selling, keeping for sale, offering for sale, or otherwise disposing of oleomargarine, butterine or any mixture imitating butter or adulterated butter, under the pretense that the same is butter, or manufacturing the same without branding the package in which it is contained on the outside with the words " oleomargarine," " butterine," or " adulterated butter," is a misdemeanor. (Penal Code, Idaho; R. S., § 6917.)

ILLINOIS.

Imitation butter is defined to be every article, substitute or compound, other than (that) which is produced from pure milk or cream therefrom, made in the semblance of butter and designed to be used as a substitute for butter made from pure milk or its cream. The use of salt and harmless coloring matter for coloring the product of pure milk or cream is permitted. The coloring of substitutes for butter to resemble butter, the product of the dairy, is prohibited. The combination of animal fat and vegetable oil or other substance with butter, for the purpose of imparting thereto a yellow color or any shade of yellow, so that such substitute shall resemble yellow or any shade of genuine yellow butter, or into any articles or substances of which it is composed, is prohibited. *Provided*, That the use of salt, rennet and harmless coloring matter for coloring the products of pure milk or cream from the same is permitted. The manufacturing, selling, keeping for sale or offering for sale of any substance in imitation or semblance of natural butter, compounded and produced in violation of this section, whether such imitation butter shall be made or produced in this State or elsewhere, is prohibited.

The manufacture and sale, under the regulations hereinafter provided, of substitutes designed to be used as a substitute for butter and not manufactured and colored, as herein provided, is prohibited. Every person who lawfully manufactures any substance designed to be used as a substitute for butter, is required to brand, stamp or stencil upon the top or side of each box, tub, firkin or other package in which such article shall be kept or removed from the place where it is produced in a clear and durable manner, in the English language, the word "oleomargarine," or the word "butterine," or the words "substitute for butter," or the words "imitation butter," in printed letters in plain roman type, each of which shall not be less than three-quarters of an inch in length.

It shall be unlawful to sell or offer for sale any imitation butter without informing the purchaser thereof or the person or persons to whom the same is offered for sale that the substance sold or offered for sale is imitation butter. The shipping, consigning or forwarding by any common carrier whether public or private of any substance designed to be used as a substitute for butter is prohibited unless it shall be marked or branded on each tub, box, firkin or jar or other package containing the same, as provided in this act and unless it be consigned by the carriers and receipted for by its true name. *Provided*, That this act shall not apply to any goods in transit between foreign States across the State of Illinois. No person shall have in his possession or under his control any substances designed to be used as a substitute for butter unless the tub, firkin, jar, box or other package containing the same be clearly and durably marked as provided in this act. *Provided*, That this section shall not be deemed to apply to persons who have the same in their possession for the actual consumption of themselves or their families; and the possession or control of any imitation butter for the purpose of selling the same, which is not marked as required by the provisions of this act shall be presumed to have known during the time of such possession or control the true character and name as fixed by this act of such product and the having in possession or control of any imitation butter contrary to the provisions of this act for the purpose of selling the same or offering it for sale is held to have possession of such property with intent to use it in violation of this act. No action shall be maintained on account of any sale or contract made in violation of or with intent to violate this act by or through any person who was knowingly a party to such wrongful sale or contract. Whoever shall depose, erase or remove any mark provided by this act with intent to mislead, deceive or to violate any of the provisions of this act shall be guilty of a misdemeanor. Whoever shall violate any of the provisions of this act shall be punished by a fine of not less than fifty nor more than two hundred dollars or by imprisonment in the county jail not to exceed sixty days for such offense or by both fine and imprisonment in the discretion of the court, or the fine alone may be sued for and recovered before any justice of the peace in the county where the offense shall be committed at the instance of any person in the name of the people of the State of Illinois as plaintiff. It is made the duty of the State attorney of each county in this State to prosecute all violations of this act upon complaint of any person, and there shall be taxed as his fees in the case the sum of ten dollars (10), which shall be taxed as costs in the case. (Laws 1897, p. 3-5).

IOWA.

Chapter 46 of the Laws of 1894, repeals sections 1, 2, 3, 4, 5, 8, 10 and 15 of chapter 52 of 21 General Acts, and defines what constitutes imitation butter and cheese; prohibits the coloring of substitutes to resemble butter and the combination of animal fat or vegetable oil, etc., with butter or cheese, and the manufacture and sale of imitation butter or cheese, except when branded, stamped or marked, and shipping of substitutes for butter or cheese, except as marked, and except goods in transit across the State. The possession of such substitutes is not allowed, except by persons having the same for personal use; knowledge of the true characters and names by persons possessing substitutes is presumed. In case of sale of substitutes the purchaser is to be notified by statement that the substance sold is a substitute for butter or cheese; hotels, etc., issuing substitutes, must keep a card posted with the words "substitutes for butter used here," or "substitute for cheese used here." Possession of imitations contrary to the provisions of this act is an evidence of intent to use, to commit a public offense. Provision is made for search warrants, seizure of sample for analysis, and the manner of the disposal of sample seized. Penalties are provided for the violation of the law.

INDIANA.

The selling or having in possession with intent to sell or exposing for sale, or keeping on the table in any hotel, restaurant, or public or private boarding-house, of any butter other than that made from pure milk is deemed a misdemeanor, and punishable by a fine, unless it is labeled in large letters "oleomargarine;" each package of such article sold must have a label indicating the true and appropriate name of the same. (Laws 1883, chap. 62.)

KENTUCKY.

It is punishable by a fine of not less than $20 nor more than $1,000 to sell or exchange any oleaginous substance or compound as butter other than that produced from unadulterated milk or cream, unless the packages containing the same are marked to show to the purchaser and establish the true character thereof and distinguish it from genuine butter. (Laws 1893, chap. 182.)

LOUISIANA.

The sale of all substances, such as oleomargarine, butterine, bogus butter or other material, either separately or in combination with any substance other than the product of the cow, as butter, is prohibited unless labeled as unmistakably to indicate their true composition. The penalty for the violation of the provisions of this act is fine or imprisonment or both in the discretion of the courts. (Laws 1886, No. 81.)

MAINE.

The sale of adulterated cheese or butter and oleomargarine is regulated by stamping, labeling or marking on the packages containing the same, the words "imitation cheese," or "adulterated butter" or "oleomargarine," and notifying the purchaser by label of the same. (Laws 1883, chap. 183.) Chapter 297 of the Laws of 1885 fixes the penalty for manufacturing, selling or having in possession, with intent to sell, adulterated butter or cheese, first offense, $100; second, or each subsequent offense, $200, to be recovered by indictment, with costs.

Chapter 143 of the Laws of 1895 amends section 3 of chapter 297 of the Laws of 1885, and prescribes a penalty for the manufacturing, selling, having in possession with intent to sell, or taking orders for the future delivery of imitation of yellow butter or cheese, whether said article is oleomargarine, butterine or otherwise named. The forfeiture for the first offense is $100, and the second and each subsequent offense $200; to be recovered by indictment with costs, one-third part to go to the complainant and the balance to the State.

MARYLAND.

It is unlawful to manufacture and sell any article or substance in semblance of butter or cheese not the product of the dairy, unless branded or stamped with the word "oleomargarine," and the sale is prohibited if the dealer is asked for butter, even if stamped or marked as aforesaid. Penalty for violation of law, fine or imprisonment and forfeiture of the article under certain circumstances. (Laws 1886, chap. 255.)

Packages must be marked, etc., when oleomargarine, etc., is mixed with the butter or cheese, or with any article of food, and the buyer must be informed of the fact and the proportion of the adulteration. (Laws 1890, chap. 604.)

MASSACHUSETTS.

Chapter 280 of the Laws of 1894 makes amendments to existing laws at the time of its passage as follows:

Section 3 of chapter 317 of the Laws of 1895, by providing a penalty for false marking or labeling. Section 1 of chapter 412 of the Laws of 1891, by regulating the sale of butter, declaring it a fraud and punishable to sell oleomargarine, butterine, etc., to any person who sends or inquires for butter. Section 2 of the same chapter by requiring packages containing oleomargarine, etc., to be plainly marked, when offered for sale, with the word "oleomargarine." Section 4 of the same chapter, by requiring that wagons, etc., used for the sale of oleomargarine, etc., shall be marked "licensed to sell oleomargarine." Section 9 of the same chapter, by prescribing the powers of the dairy bureau, agents and counsel. Section 1 of chapter 58 of the Laws of 1891, by prohibiting the manufacture or sale, taking orders for future delivery, etc., of imitation butter; but it provides that oleomargarine may be manufactured and sold in a separate and distinct form, and in such a manner as will advise the consumer of its real character, free from coloration or ingredients that causes it to look like butter.

Section 1 of chapter 58 and section 5 of chapter 412 of the Laws of 1891, together with section 6 of chapter 280 of the Laws of 1894, are amended relative to the sale of imitation butter. It is not allowed to be manufactured and sold except in a separate and distinct form, and in such a manner as will advise the consumer of its real character, free from coloration or ingredients that causes it to look like butter.

Guests or patrons of hotels, restaurants, boarding-houses, or lunch counters where oleomargarine or butterine is furnished must be notified by the party so furnishing it that the substance so furnished is not butter. The violation of this act is punishable by a fine of not less than $10 nor more than $50 for each offense. (Laws 1896, chap. 377.)

MICHIGAN.

Act No. 76, Laws 1897, is an act to prevent deception in the manufacture and sale of imitation butter and reads as follows:

Section 1. "That no person, by himself or his agent, or servant, shall render or manufacture, sell, offer for sale, expose for sale, or have in his possession, with intent to sell, any article, product or compound made wholly or in part out of any fat, oil, or oleoginous substance or compound thereof, not produced from unadulterated milk or cream from the same, which shall be in imitation of yellow butter produced from pure, unadulterated milk or cream from the same. *Provided*, That nothing in this act shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form, and in such a manner as will advise the consumer of its real character, free from coloration or ingredients that causes it to look like butter."

§ 2. "Whoever violates any of the provisions of section one (1) of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not less than fifty dollars nor more than five hundred dollars and the costs of prosecution, or by imprisonment in the county jail or State House of Correction and Reformatory at Ionia, for not less than six months nor more than three years, or by both such fine and imprisonment, in the discretion of the court, for each and every offense."

MINNESOTA.

Chapter 149, Laws of 1885, prohibits the manufacture and sale of oleomargarine and similar substances. Chapter 140, Laws of 1887, was to prevent deception in sale of dairy products, and was supplementary to and in aid of chapter 149, Laws of 1885.

Chapter 247, Laws of 1889, amends chapter 140, Laws of 1887, and is substantially the same as the New York law except as to the penalty for the violation of the sixth section of the law. It is deemed a misdemeanor punishable by a fine of not less than one hundred dollars nor more than one thousand dollars.

The law requires that imitation butter or any substitute for butter, not made wholly from milk or cream, shall be of a bright pink color when sold, exposed for sale or had in possession with intent to sell. Samples of suspected articles are to be analyzed, and seizures are authorized of prohibited articles. The penalty for the violation of the first section of this act is $50 for the first offense, and $100 with costs, for a second or each subsequent offense. (Laws 1891, chap. 11, p. 83, G. L.)

MISSISSIPPI.

The dealing in oleomargarine or any other similarly manufactured butter is regulated by branding or marking before sale on each package "oleomargarine" or with whatever name it may be known, and shall sell or offer for sale the same by and according to its mark or brand, and the seller shall pay a privilege tax of $50. (Laws 1882, chap. 50.)

It is a misdemeanor to sell or manufacture, expose or offer for sale, as an article of food, any oleomargarine or other substance in imitation of any article of food, without disclosing the imitation, by a suitable mark or brand, indicating and naming what the substance really is. (Laws 1882, p. 85.)

This law levies a tax on each vendor of oleomargarine or similarly manufactured butter of $50. (Laws 1892, chap. 75.)

MISSOURI.

Imitation butter is defined, coloring matter is prohibited, as is also the manufacture and sale of imitation butter unless the substitutes for butter are marked, branded, etc., and the shipment unless branded, etc. The possession of unbranded substitutes for butter is prohibited, and, if sold, the purchaser must be informed that the substance is a substitute. Penalties are provided for the violation of the act. Possession of substitutes for butter contrary to the act is a public offense. Search warrants may be issued and the duty of the State board of agriculture is specified. An action on account of sales cannot be maintained, and the effacement of brands is a misdemeanor. The State board of agriculture is charged with the execution of the act; an appropriation of $5,000 is made for the same. Fines are to be covered in the State treasury, and inconsistent acts are repealed. (Laws 1895, p. 26.)

MONTANA.

The branding or marking of the words "oleomargarine butter" or "imitation cheese" on each package containing the same, is required, when sold. The violation of the law makes null and void any contract for the sale of such articles. (Laws 1895, p. 51.)

Chapter 40 title 10 of the Penal Code, sections 684, 685 and 686, relate to the manufacture and sale of oleomargarine and imitation cheese. Branding or marking is required, and, in the case of a hotel, restaurant or boarding-house using such article or substance, a printed notice is necessary; if inquiry is made the customer or guest must be distinctly informed that the article furnished is not butter or cheese, the genuine product of the dairy, but oleomargarine or imitation cheese. The penalty for the violation of these sections is imprisonment in county jail not exceeding one month or by fine not exceeding $100.

Chapter 13 of article 2 of the Civil Code, section 4064, requires that every person, company or .corporation selling oleomargarine, butterine or imitation cheese, shall pay a license of ten cents per pound for all the articles sold.

NEBRASKA.

The branding or marking of the words "oleomargarine" or "butterine" is required when sold, and in case of retail sales a delivery of a label with those words to the purchaser is also required. The violation of the law makes void the sale, and no action can be maintained for the price thereof, and the selling, offering for sale, exposing for sale, or causing or procuring to be sold, unless in conformity to the law, is a misdemeanor, and the proof of the sale or offer or exposure alleged is presumptive evidence of knowledge of the character of the article so sold or offered for sale. (Laws 1883, chap. 53.)

Chapter 78 of the Laws of 1895 is an act concerning imitation butter and imitation cheese, defining the same, prohibiting their being colored in semblance of butter and cheese; regulating the manufacture, shipping and sale, and protecting the consumer at the table, and prescribing penalties for the violation thereof.

Chapter 79 of the Laws of 1895 amends section 8 of chapter 78 of the Laws of 1895 with regard to penalties and the manufacture of imitation butter or imitation cheese within the State, under the restrictions and provisions of the United States law for shipment to points outside the State.

NEW HAMPSHIRE.

The sale of adulterated butter, oleomargarine and imitation cheese is unlawful unless the packages containing the same have on them the words "adulterated butter," "oleomargarine" or "imitation cheese," and if a substitute for butter, unless it is of a pink color, and if in less quantities than the original package the seller to deliver to the purchaser a label bearing these words indicating its character. (R. S., §§ 19, 20, Laws 1881, 1885.)

It is unlawful for any person within the State to solicit or take orders for any substance or compound, the sale, offer to sell or keeping in possession of which with intent to sell is prohibited by sections 19 and 20 of the Revised Statutes, to be delivered at any place without the State knowing or having reasonable cause to believe that if so delivered the same will be transported into the State and be sold in violation thereof. (Laws 1893, chap. 37, amending chap. 127 of P. S.)

Chapter 115 of the Laws of 1895 amends section 19 of chapter 127, Penal Statutes, and regulates the manufacture and sale of oleomargarine, etc., and the use of it in hotels, boarding-houses, etc., and penalties are fixed for the violation of the law.

NEW JERSEY.

Public Laws 1886, page 107, as amended by Public Laws 1889, page 192, and Public Laws 1895, page 654, is similar to the New York law, excepting that oleomargarine, etc., may be sold if properly labeled and branded.

NORTH CAROLINA.

Chapter 106 of the Laws of 1895 requires that oleomargarine shall be labeled, giving chemicals and ingredients.

NORTH DAKOTA.

It is deemed a misdemeanor, and is punishable by either fine or imprisonment or by both, to knowingly sell or offer for sale or procure the sale of or manufacture any article or substance in semblance of butter not the legitimate product of the dairy, and made exclusively of milk or cream, unless durably branded, stamped or marked in a conspicuous place with the word "oleomargarine," or "butterine," or "patent butter," as the case may be.

If imitation butter is sold, etc., when made under the "Quinness' patent," or similar process, stamping upon each package of the same on the top and side with lampblack and oil the words "patent butter" is required. The violation of this provision is deemed a misdemeanor and is punishable by either fine or imprisonment or both.

Whoever sells or offers for sale any imitation or patent butter or cheese as described in the foregoing sections shall give to each purchaser of said goods a printed card stating correctly the different ingredients contained in the said compound. The violation of this section is deemed a misdemeanor and punishable by fine or imprisonment or both. (P. C.; R. C., 1895, chap. 67, §§ 7639, 7640, 7642.)

OHIO.

The manufacture and sale of imitation butter and cheese is prohibited; also the false branding of dairy products. (Laws 1886.)

The Laws of 1886, as amended by the Laws of 1887, require the branding or marking of packages containing imitation butter represented to be or bearing the semblance of butter.

The Laws of 1886, as amended by the Laws of 1888, require that where kept in store, room, stand, booth, wagon or place, the words "oleomargarine" or "imitation cheese sold here," shall be printed on cards and posted in a conspicuous place, informing the purchaser that such substance is not butter or cheese, but an imitation of the same; in hotels, boarding-houses and places of public entertainment, there shall be a sign with the words "oleomargarine sold or used here," or "imitation cheese sold or used here," and the proprietors shall not sell the same as and for "butter" or "cheese," when butter or cheese is asked for.

The Laws of 1890 prohibit the manufacture and sale of imitation butter and cheese, but the manufacture and sale of oleomargarine is permitted in a separate and distinct form and in such a manner as will advise the consumer of its real character, free from any coloring matter or ingredient causing it to look like or appear to be butter. It is a misdemeanor punishable by fine or imprisonment to violate the law.

Chapter 238 of the Laws of 1894 prohibits the manufacture and sale of any oleomargarine containing methly (methy), orange, butter yellow, annoto, aniline dye, or any other coloring matter. It is substantially the same as the law of 1888 with regard to the use of placards and similar to the law of 1890; it must be sold under its true name and defines "oleomargarine" to mean any substance not pure butter of not less than 80 per cent. of butter fat, which substance is a substitute or an imitation of, or to be used as butter. Chapter 291 of the Laws of 1894, repeals chapter 151 of the Laws of 1892, and prohibits the manufacture, sale, etc., of imitation or adulterated cheese and the sale, etc., of falsely branded cheese.

A penalty is prescribed for selling or offering imitations or substitutes when cheese is called for; also for selling or offering imitations or substitutes without proper brands and placards. The posting of placards in place of business and on side of vehicles is required and a penalty for failure is provided for. Guests or patrons of hotels, restaurants or lunch counters where "filled cheese" or "skimmed cheese" is furnished, are to be notified that the substance so furnished is not cheese and a penalty is prescribed for the failure. (Laws 1896, No. 6, p. 51.)

OREGON.

This act is to prevent the sale of unwholsome food, and repeals the Law of 1889, p. 45, on the same subject.

Section 16 requires the seller of oleomargarine or any imitation butter whatsoever, or other imitation dairy products, to keep a sale-book; said sale-book shall state the amount sold and the name and address of the purchaser, which shall be open to the inspection of the State food commissioner or his agent at all times.

The following is deemed an adulteration under this law:

If any substance or substances have been mixed with it, so as to reduce or lower or injuriously affect its quality or strength.

If any inferior or cheaper substance or substances have been substituted, wholly or in part, for it.

If any valuable constituent has been wholly or in part abstracted from it.

If it is an imitation, or if it is sold under the name of another article.

If it is colored, coated, polished or powdered, whereby damage is concealed, or if it is made to appear better or of greater volume than it really is; provided, however, that salt and annatto, or butter-color in which annatto is the principal ingredient, shall not be considered an adulteration, when used in dairy products.

Butter that contains more than 14 per cent. of water. (Laws 1893, p. 99.)

PENNSYLVANIA.

The manufacture and sale of any oleomargarine, imitation or adulterated butter or cheese is prohibited. The sale of such butter and cheese is declared unlawful and void, and actions to enforce contracts for such sales cannot be maintained. Constables are to make quarterly reports to the courts of all violations of any of the provisions of this act; judges of the courts are required to have constables make such reports. The law also provides fines and penalties for its violation. (Laws 1885, No. 25.)

The law of 1887 prohibits the manufacture of imitation butter or cheese or the selling, offering for sale or having in possession with intent to sell the same as an article of food.

Number 234 of the Laws of 1895, amends section 3 of the Laws of 1885, and provides penalties for the violation of the first section of the act.

RHODE ISLAND.

Butter tubs are to be branded; sale without brand is prohibited. Artificial butter is to be stamped "oleomargarine." Proof of the sale, offer to sell, or exposure for sale, shall be evidence of knowledge of the character of the article so sold or offered or exposed for sale, of knowledge that it was not marked, etc., as required by this chapter. (R. S., chap. 126; G. S., chap. 114.)

SOUTH CAROLINA.

Imitation butter or cheese is defined to be "every article, substance or compound other than that produced wholly from pure whole-milk or cream from the same made in semblance of butter or cheese and designed to be used as a substitute for butter or cheese" except, that when salt, rennet and harmless coloring matter is used, such product shall not be considered an imitation.

Coloring matter in substitutes for butter or cheese, causing it to resemble butter or cheese the product of pure milk or cream is prohibited, as is also the combination of animal fat or vegetable oil or other substance with butter or cheese to give the substance a yellow color to resemble genuine yellow butter or cheese, except that the use of salt, rennet or harmless coloring matter is allowed for coloring the product of pure milk or cream from the same. The manufacture and sale of imitation butter or cheese is prohibited except under certain regulations. Substitutes for butter and cheese when manufactured shall be branded, stamped, etc., upon the top and side of each tub, box, or other vessel in which such substitute shall be kept, the words "substitute for butter" or "substitute for cheese," as the case may be. The possession of unmarked imitation butter or cheese is prohibited, unless the person has the same in his possession for the actual consumption of himself or family.

The selling or offering for sale of any imitation butter or cheese under the pretense that the same is genuine butter or genuine cheese is prohibited. The keeper or proprietor of any hotel or restaurant who uses or serves therein, either as food or for cooking purposes, any imitation butter or cheese, is required to keep conspiciously posted a white card with the words "imitation butter used here," or "imitation cheese used here," as the case may be. It is deemed a misdemeanor to violate any of the provisions of the act, punishable by a fine not to exceed one hundred dollars and not less than ten dollars, one-half to go to the informers through whose agency such conviction shall be made. (Laws 1896, No. 96, p. 216.)

TENNESSEE.

The manufacture and sale of imitation butter or cheese is unlawful unless made under its true and appropriate name, and unless each package, roll or parcel, and each vessel containing the packages of such substance is stamped or marked with the true and appropriate name of the article. (Laws 1879, chapter 169.)

Chapter 101 of the Laws of 1895 requires the labeling, stamping and marking of oleomargarine, butterine and imitation butter. Penalties are prescribed for the violation of the provisions of the law.

UTAH.

The manufacture, sale, shipping, offering for sale, exposing for sale, taking orders for future delivery of or having in possession with intent to sell imitation butter is prohibited, except that oleomargarine may be manufactured or sold in a separate and distinct form, and in such a manner as will advise the consumer of its real character, free from coloration or ingredient that causes it to look like butter, and free from any word, brand or marking, either upon the package or upon any wrapper or upon the contents of the same, which would in any wise tend to deceive the purchaser or consumer. The sale of oleomargarine, butterine, etc., for butter is prohibited. The marking of imitation butter by a placard, when sold, with the word "oleomargaine" on the outside of each tub, parcel or package, and also upon the exposed contents of every open tub, package or parcel is required, as is also the posting of placards for the sale of oleomargarine, butterine or similar substances in dwellings, stores, offices or public marts, with the words "oleomargarine sold here" or "butterine sold here." The putting of placards with the word "oleomargarine" on the outside of both sides of the cart, wagon or other vehicle used to peddle, sell or solicit orders for its sale is required. Guests in hotels, boarding-houses, restaurants or any lunch counter, where oleomargarine, butterine or any similar substance is furnished, are to be notified that the substance so furnished is not butter. The violation of the sections of the law with reference to oleomargarine, butterine, etc., is deemed a misdemeanor, and is punishable by fine or imprisonment. Search warrants may be issued upon proper complaint for imitation butter, and methods are prescribed for the seizure and analysis of imitation butter or cheese, and the confiscation of imitations. Chapter 63 of the session laws of 1894, of the legislative assembly of the Territory of Utah is hereby repealed. (Laws 1896, chap. 60, p. 166.)

VERMONT.

The law prohibits the production of imitation butter or cheese. It also prohibits the sale of imitation butter unless it is colored pink; hotel-keepers, etc., are prohibited from using, or having on hand to use, any such article, unless colored pink; penalties are provided for the violation of the law. Specimens of suspected butter or cheese may be analyzed, and expenses, not exceeding $20, may be made a part of the costs; justices of the peace may issue search warrants. (Laws 1890, No. 53.)

VIRGINIA.

The manufacture and sale of imitation butter or cheese is prohibited, and the proprietors and agents of bakeries, hotels, taverns and boarding-houses are prohibited from keeping, using or serving as food to their guests or for cooking purposes, imitation butter or cheese. (Laws 1892, chap. 526.)

WASHINGTON.

The selling, supplying or offering for sale or exchange of imitation butter and cheese is unlawful unless the packages containing the same are marked so as to plainly indicate its true character; the bill of fare in dining or eating-houses shall state the fact; if no bill of fare is used a notice must be posted stating the name or names of such imitation dairy products. (Laws 1891, chap. 69.)

Chapter 45 of the Laws of 1895 prohibits the manufacture or sale of adulterated or spurious butter or cheese as pure.

WEST VIRGINIA.

It is unlawful to manufacture or sell oleomargarine, artificial or adulterated butter within the limits of the State, whether the same be manufactured within or without the State, unless the same shall be colored pink. (Laws 1891, chap. 8.)

WISCONSIN.

Imitation butter and cheese are to be marked as such. It is unlawful to make butter and cheese from any oleaginous substance other than milk or cream. The use of skimmed milk is permitted in the manufacture of cheese, but the product shall be plainly labeled "skimmed." The dealer in imitation butter and cheese, and keepers of hotels, boarding-houses, etc., must post notices of the true character of the commodity in use. (Laws 1891, chap. 165.)

Chapter 264 of the Laws of 1891 relates to the grading and stamping of cheese at a cheese factory. It defines the grades, size of stamp, fixes a penalty for false stamping and exempts certain kinds of cheese from the operation of the act.

Chapter 30 of the Laws of 1895 prohibits the manufacture, sale, etc., of imitation butter, except that oleomargarine is allowed to be manufactured and sold in a separate and distinct form and in such a manner as will advise the consumer of its real character, free from coloration or ingredients that causes it to look like butter. The marking and the use of placards is required for the sale of oleomargarine, etc., in hotels, etc.; the guest or patron shall be notified that the substance furnished is not butter; it is unlawful to sell or offer for sale to any person who asks, sends or inquires for butter any oleomargarine, butterine or any substance made in imitation or semblance of pure butter not made entirely from the milk of cows without coloring matter.

VINEGAR STANDARD.

CONNECTICUT.

Acidity, 4 per centum.

If cider vinegar, 2 per centum solids. Artificial coloring matter prohibited. (Laws 1897, chap. 67.)

DISTRICT OF COLUMBIA.

Acetic acid, 5 per centum.

Solids, 1.5 per centum.

INDIANA.

Acidity, 4 per centum.

Cider vinegar, 2 per centum of solids in addition. Artificial coloring matter prohibited. (Laws 1889, chap. 70.)

MASSACHUSETTS.

Acidity, 4 per centum.

If cider vinegar, 2 per cent. solids.

Artificial coloring matter deemed an adulteration. (Laws 1885, chap. 150.)

BOSTON.

Acetic acid, 5 per centum.

Solids, 1.5 per centum.

MICHIGAN.

Fruit or grain vinegar, 4 per centum acetic acid. Foreign substances not allowed.

Distilled vinegar, coloring matter not permitted.

Fermented vinegar, 1¾ per cent. solids at the temperature of boiling water, and two and a half tenths of 1 per centum ash or mineral matter.

Cider vinegar, 1¾ per centum solids. Foreign substances, drugs or acids, prohibited. (Laws 1897. Approved April 16, S. L. R.)

MINNESOTA.

Acidity, 4.5 per centum.

Solids, 1¾ per centum. (Laws 1889, chap. 7.)

Artificial coloring matter prohibited. (Laws 1891, chap. 119.)

NEBRASKA.

Fruit or grain vinegar, 4 per centum acetic acid.

Cider vinegar, solids, 2 per centum.

Artificial coloring matter prohibited. (Laws 1897, chap. 4.)

NEW YORK.

Acetic acid, 4.5 per centum.

Solids, 2 per centum.

Artificial coloring matter prohibited. (Laws 1893, chap. 338, art. III, § 50.)

OHIO.

Cider vinegar, acidity 4 per centum.

Solids, 2 per centum.

Artificial coloring matter prohibited. (Laws 1887; amended by Laws 1888.)

PENNSYLVANIA.

Cider vinegar, acidity 4 per centum.

Solids, 1½ per centum by weight at a temperature of boiling water. Foreign substances, drugs or acids, prohibited.

Fermented vinegar, not distilled, solids, 1½ per centum by weight at a temperature of boiling water.

All fruit or grain vinegars, acetic acid 4 per centum. Foreign substances are prohibited, but an amount of spices necessary for flavoring, if such spices do not color the vinegar, is permitted. (Laws 1897, No. 140.)

WISCONSIN.

Acidity, 4 per centum.

If cider vinegar, 2 per cent solids in addition.

Barrels containing vinegar are to be branded with the standard strength of contents, which shall be denoted by the strength of acetic acid. (Laws 1891, chap. 394.)

LAWS RELATING TO VINEGAR.

CONNECTICUT.

Chapter 67, Laws of 1897, is an act concerning the adulteration of vinegar and reads as follows:

Section 1. "Section one of chapter 60 of the public acts of 1889, is hereby amended by striking out the words 'other than acetic,' in the fifth and sixth lines thereof, so that said section, when amended, shall read as follows: No person shall make or sell, or make for sale, as cider vinegar, any vinegar not produced wholly from the juice of apples. No person shall add to any vinegar, or to any article sold or to be sold as vinegar, any drug, any hurtful or foreign substance, any coloring matter, or any acid. Any person violating this section of this act shall be fined fifty dollars for a first offense, and for a second or later offense, he shall be fined one hundred dollars and imprisoned thirty days."

§ 2. "Section two of said act is hereby amended by striking out the words " in case of cider vinegar, the words ' cider vinegar,' " and inserting in lieu thereof the words "the true name of the kind of vinegar contained therein as ' cider vinegar,' ' wine vinegar,' 'malt vinegar,' or 'wood acid vinegar,' " so that said section, when amended, shall read as follows: No person shall make and sell, or make for sale, any vinegar not having an acetic acidity equivalent to the presence therein of not less than four per centum by weight, of absolute acetic acid, and in case of cider vinegar, not less than two per centum by weight of cider vinegar solids upon full evaporation over boiling water. No maker of vinegar shall sell the same without conspicuously branding, stenciling, or painting upon the head of the barrel, cask, keg, or package containing the same, the name of the maker, his residence, or place of manufacture, and the true name of the kind of vinegar contained therein, as " cider vinegar," "wine vinegar," "malt vinegar," or "wood acid vinegar;" *provided*, that this clause concerning marking shall not apply to retail sales, at the place of manufacture, in quantities of less than five gallons, and in open packages. Any person violating this section of this act shall be fined ten dollars for a first offense, and for a second or later offense, fifty dollars."

§ 3. "Section 3 of chapter 60 of the public act of 1889 as amended by section 1 of chapter 234 of the public act of 1889, is hereby amended by striking out the words ' other than acetic,' in the tenth line thereof, and also by striking out the words ' made in this State and purchased by the person last mentioned of the maker,' so that said section as amended shall read as follows: No person shall sell, or offer, or expose for sale, or exchange, or solicit, or receive any order for the sale or delivery within this State or for delivery without this State for shipment into this State; first, any vinegar, as cider vinegar, not wholly produced from the juice of apples; or second, any vinegar, or article sold or to be sold as vinegar, in which has been added any drug, or any hurtful or foreign substance, or any coloring matter, or any acid; or third, any vinegar not having an acetic acidity equivalent to the presence therein of not less than four per centum by weight of absolute acetic acid, and in case of cider vinegar, not less than two per centum by weight of cider vinegar solids upon full evaporation over boiling water; or fourth, any vinegar in a barrel, cask, keg or other package not branded, stenciled or painted as required by a previous section of this act. Any person violating this section of this act shall be fined $10 for a first offense, and for a second or later offense $50. The delivery of any of the above mentioned articles upon any order solicited or received within this State shall be conclusive evidence that the order upon which such delivery was made was for such articles, and shall render the person soliciting or receiving such order liable to the penalty above prescribed."

ILLINOIS.

The manufacture and sale of impure cider vinegar, and that of vinegars containing acids injurious to health, is punishable by fines. (Laws 1883, p. 176.)

INDIANA.

It is deemed a misdemeanor to manufacture or sell, offer or expose for sale, cider vinegar which is not cider vinegar, or adulterating vinegar; also, to manufacture or sell vinegar containing ingredients injurious to health; manufacturers of cider vinegar must brand each package containing the same with the name, residence of manufacturer, State where manufactured and the words "cider vinegar." (Laws 1889, chap. 70.)

KANSAS.

It is punishable by a fine of not less than $50, nor more than $100, to manufacture for sale or expose for sale as cider vinegar any vinegar not cider vinegar, or adulterate the same; also, any vinegar containing lead, copper, etc. The provisions of the act apply to preparations of fruit, vegetables, etc., in which vinegar is one of the principal ingredients. Casks, barrels, etc., are required to be branded with the words "cider vinegar," when it is such, and if a false brand is used the same penalty is imposed as aforesaid. (Laws 1891, chap. 1, p. 1.)

KENTUCKY.

Packages containing vinegar, placed and offered for sale, shall be labeled, branded or marked with process of manufacture and material of which it is made; if it is not as represented the violator is punishable by a fine of not less than $25 nor more than $100. (R. S., § 1282.)

MAINE.

The manufacture, sale or branding of any vinegar not the product of pure apple juice, or the adulteration of vinegar by foreign substances and ingredients injurious to health, is prohibited. (Laws 1881, chap. 6.)

MARYLAND.

Adulteration of vinegar prohibited; also, the sale and importation into the State, when known to be adulterated, or in any way sophisticated. Violation of law is punishable by fine or imprisonment, the article so adulterated to be forfeited and destroyed. (Laws 1890, chap. 604.)

MASSACHUSETTS.

The adulteration of vinegar is forbidden; cider vinegar to be sold as cider vinegar. (Laws 1884, chap. 307.)

MICHIGAN.

Section 1. "No person shall manufacture for sale, offer or expose for sale, sell or deliver, or have in possession with intent to sell or deliver, any vinegar not in compliance with the provisions of this act. No vinegar shall be sold as apple, orchard or cider vinegar, which is not the legitimate product of pure apple juice, known as apple cider or vinegar, not made exclusively of said apple cider or vinegar into which foreign substances, drugs or acids have been introduced as may appear upon proper test, and upon said test, shall contain not less than one and three-fourths per cent. by weight, of cider vinegar solids upon full evaporation at the temperature of boiling water."

§ 2. "All vinegar made by fermentation and oxidation without the intervention of distillation, shall be branded "fermented vinegar," with the name of the fruit or substance from which the same is made. And all vinegar made wholly or in part from distilled liquor, shall be branded "distilled vinegar," and all of such distilled vinegar shall be free from coloring matter added during or after distillation and from color other than that imparted to it by distillation. And all fermented vinegar not distilled shall contain not less than one and three-fourths per cent, by weight, upon full evaporation (at the temperature of boiling water) of solids contained in the fruit or grain from which said vinegar is fermented, and said vinegar shall contain not less than two and a half tenths of one per cent. ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. And all vinegar shall be made wholly from the fruit or grain from which it purports to be or is represented to be made, and shall contain no foreign substance, and shall contain not less than four per cent. by weight, of absolute acetic acid."

§ 3. "No person shall manufacture for sale, offer for sale, or have in his possession with intent to sell, any vinegar found upon proper test, to contain any preparation of lead, copper, sulphuric or other mineral acid, or other ingredients injurious to health. And all packages containing vinegar shall be marked, stenciled or branded on the head of the cask, barrel or keg containing such vinegar with the name and residence of the manufacturer, together with brand required in section two hereof."

§ 4. "Whoever violates any of the provisions of this act shall, upon conviction, be fined not less than fifty dollars nor more than one hundred dollars, or imprisoned in the county jail not to exceed ninety days and the costs of prosecution, or by both such fine and imprisonment in the discretion of the court."

§ 5. "All acts and parts of acts contravening the provisions of this act are hereby repealed." (P. A., 1897, No. 71, §§ 1, 2, 3, 4, 5.)

MINNESOTA.

This law is substantially the same as the New York law. Violation of the law is a misdemeanor. (Laws 1889, chap. 7.)

Chapter 119 of the Laws of 1891 makes changes in penalties and requires the branding of packages.

MISSOURI.

The manufacture and sale of vinegar other than the product of apple cider as such is prohibited. All vinegar sold, etc., to be without artificial coloring or flavoring. False labeling is also prohibited, and manufacturers of fruit vinegar are required to brand casks, etc. (Laws 1891, p. 218.)

NEBRASKA..

The sale of vinegar as apple, orchard or cider vinegar which is not the legitimate product of pure apple juice known as apple cider or vinegar not made exclusively of said apple cider or vinegar into which foreign substances or drugs or acids have been introduced and containing less than 2 per centum of cider vinegar solids is prohibited. "The name and place of business and the words 'cider vinegar' of every manufacturer or producer of cider vinegar shall be plainly marked or branded on the head of each cask, barrel keg or other package containing such vinegar and the labeling or branding as cider vinegar or for cider vinegar any package containing vinegar which is not cider vinegar, is prohibited. The so-called grain vinegars, wine vinegar or fruit vinegars shall be placed on the market without artificial coloring, with a brand or label on each barrel, cask or other package clearly indicating the name and place of business of the manufacturing person, firm or company with the name of the grain or fruit from which the contents are made. All vinegar shall be made wholly from the fruit or grain from which it purports to be or is represented to be made; shall contain no foreign substance, and not less than 4 per centum of absolute acetic acid. The manufacturing for sale or offering for sale or having in possession with intent to sell any vinegar containing any preparation of lead, copper, sulphuric or other mineral acid or other ingredient injurious to health is prohibited. It is made the duty of the county attorney of each of the counties of the State when complaint is made to him that adulterated vinegars are being sold in his county to inquire into the facts and he and his assistants shall have access to all places where vinegar is made for sale or kept for sale in violation of the provisions of this act, and he may inspect the same and take samples for analysis. If the investigation sustains the charge he is to file information and prosecute the offenders as in criminal cases.

The penalty for the violation of any of the provisions of this act, is a fine of not less than $50 nor more than $100, or imprisonment not less than 30 days nor more than 100 days or both, for each offense, the payment of the costs of prosecution and all necessary costs and expenses incurred in the inspection and analyzing such vinegar. (Laws 1897, chap. 4.)

OHIO.

The manufacture and sale of cider vinegar which is not cider vinegar, or vinegars containing foreign substances or ingredients injurious to health, or containing artificial coloring matter, or less than 2 per cent. of vinegar solids, is prohibited. This law also requires the branding of packages containing vinegar. (Law 1887; amended by Laws 1888.)

PENNSYLVANIA.

No. 140, Laws 1897, regulates the manufacture and sale of vinegar, fixes the standard for the same and provides for its enforcement. Cider vinegar must be the product of pure apple juice and foreign substances shall not be used. The standard of cider vinegar is fixed at an acidity of not less than 4 per centum and 1½ per centum of solids at the temperature of boiling water, and no vinegar shall be branded "fruit vinegar," unless it is made wholly from grapes, apples or other fruits.

All vinegar made by fermentation and oxidation without the intervention of distillation, shall be branded " fermented vinegar," with the name of the fruit or substance from which the same is made. And all vinegar made wholly or in part from distilled liquor, shall be branded 'distilled vinegar,' and all such distilled vinegar shall be free from coloring matter added before, during or after distillation, and from color other than that imparted to it by the process of distillation.

The standard fixed for fermented vinegar not distilled is not less than 1½ per centum by weight on full evaporation (at the temperature of boiling water) of solids derived from the fruit or grain from which said vinegar is fermented. All vinegar must be made from the fruit or grain represented, without foreign substances, and shall contain not less than 4 per centum by weight of absolute acetic acid, and a sufficient amount of spices is allowed, provided such spices do not color the vinegar. The manufacture and sale of any vinegar found upon proper test to contain any preparation of lead, copper, sulphuric or other mineral acid, or other ingredients injurious to health is prohibited, and all packages containing vinegar shall be plainly and distinctly marked on each head of the cask, barrel or keg containing such vinegar, or if sold in other packages, each package shall be plainly and distinctly marked with the name and residence of the manufacturer, as required by the law.

Every person, firm or corporate body who shall violate any of the provisions of this act shall, for every such offense, forfeit and pay not less than fifty dollars, nor more than one hundred dollars, which shall be recoverable with costs, including expense of inspection and analysis by any person suing in the name of the Commonwealth as debts of like amount by law recoverable.

The Department of Agriculture, through its officer, known as the Dairy and Food Commissioner, together with the deputies, agents and assistants shall be charged with the enforcement of this act.

They shall have full access to all places of business, factories, mills, etc., and packages of whatever kind used in the manufacture, transportation and sale of any vinegar or of any adulteration or imitation thereof or any package in which vinegar is mixed with articles of food. They shall have power and authority to open any package, barrel or vessel containing any vinegar, or any adulteration or imitation thereof which may be manufactured, sold, or exposed for sale, and to take samples therefrom for analysis upon tendering the value of the said samples. The expenses for the enforcement of this act shall be paid by the treasurer of the State in the same manner as other accounts and expenses of said department are paid and all penalties and costs for the violation of the provisions of this act shall be paid to the dairy and food commissioner, or his agent, and by him immediately covered into the State treasury and kept as a fund for the use of the department to be drawn out upon warrant signed by the Secretary of Agriculture and the Auditor-General. The violation of any of the provisions of this act is deemed a misdemeanor and punishable by a fine of not less than fifty dollars, nor more than one hundred dollars, or by imprisonment in the county jail for not less than ten nor more than thirty days, or both fine and imprisonment for the first offense, and a fine of one hundred dollars and imprisonment for thirty days for every subsequent offense. *Provided*, That all fines and costs, including the expense of inspection and analysis imposed under this section, shall be covered into the State treasury as provided for in this act and all vinegar sold or offered for sale in violation of its provisions shall be subject to forfeiture and spoilation.

Magistrates and justices of the peace throughout the Commonwealth shall have jurisdiction to hear and determine actions arising for violation of the provisions of this act, and to hold for court, or impose the penalties provided therein subject to appeal as the law shall direct.

All acts or parts of acts which are inconsistent with the provisions of this act are repealed.

WISCONSIN.

It is unlawful to manufacture or sell imitation vinegar as cider vinegar, or to adulterate vinegar with any ingredients injurious to health. (Laws 1891, chap. 394.)

LAWS RELATING TO ADULTERATED FOOD, ETC.

ALABAMA.

The adulteration of food is prohibited. (Laws 1887, No. 105.)

ARIZONA.

It is a misdemeanor to adulterate any article of food with a fraudulent intent to offer the same for sale as unadulterated or undiluted. (P. C., R. S., § 606.)

CALIFORNIA.

Chapter 76 of the Laws of 1895 provides against the adulteration of foods and drugs. It defines food and drug adulterations; samples for analysis are to be furnished if demanded, and it is made a misdemeanor to violate the law; penalties are prescribed for the violation.

COLORADO.

This law relates to the adulteration of milk taken to cheese or butter factories or creameries, and requires the marking of adulterated articles intended for food or drink. (Laws 1887, p. 15, § 2, and p. 16, § 4.)

DISTRICT OF COLUMBIA.

The adulteration of food and drugs is prohibited, and the violation of the law is deemed a misdemeanor, punishable by fine or imprisonment or both. (C. S., p. 172, § 84.)

IDAHO.

It is a misdemeanor to adulterate any article of food, etc., with fraudulent intent to sell or permit the same to be sold as unadulterated, etc. (P. C. I. T., R. S., § 6918.)

KANSAS.

It is punishable by fine or imprisonment and the forfeiture and destruction of articles adulterated to fraudulently adulterate for the purpose of sale any substances intended for food with a substance injurious to health. (Laws 1868, chap. 31.)

MARYLAND.

The adulteration of food, etc., is forbidden, and it shall not be manufactured or sold unless the true and appropriate name of the article is marked on the package and the purchaser is informed of the true name and ingredients. (Laws 1890, chap. 604.)

MICHIGAN.

Number 193 of the Laws of 1895 is an act to prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink. The term food includes all articles used for food or drink, or intended to be eaten or drank by man, whether simple, mixed or compound.

Sections 1, 3, 6, 7 and 15 of Act 193, Laws of 1865, entitled "An Act to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink," are amended and read as follows:

Section 1. "That no person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food which is adulterated, within the meaning of this act.

§ 3. "An article shall be deemed to be adulterated within the meaning of this act: *First,* If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity; *Second,* If any inferior or cheaper substance or substances have been substituted wholly or in part for it; *Third,* If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it; *Fourth,* If it is an imitation of, or is sold under the name of another article; *Fifth,* If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in case of milk, if it is the product of a diseased animal; *Sixth,* If it is colored, coated, polished or powdered, whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is; *Seventh,* If it contains any added substance or ingredient which is poisonous or injurious to health; *Provided,* That nothing in this act shall prevent the coloring of pure butter; *And provided further,* That the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food, if each and every package sold or offered for sale bear the name and address of the manufacturer and be distinctly labeled under its own distinctive name, and in a manner so as to plainly and correctly show that it is a mixture or compound, and is not in violation with definitions fourth and seventh of this section."

Section 6 of this act relates to the branding of cheese and will be found under that heading.

§ 15. "No person shall manufacture or sell or offer for sale any manufactured or artificial coffee berry in imitation of the genuine berry. No person shall manufacture, sell or offer or expose for sale any ground or prepared coffee which is adulterated with chickory or other substance not injurious to health unless each package thereof shall be distinctly labeled or marked, "Coffee compound," together with the name and address of the manufacturer or compounder thereof, and has no other label of whatever name or designation. No person shall offer or expose for sale, have in his possession with intent to sell, or sell any molasses, syrup or glucose, unless the barrel, cask, keg, can or pail containing the same shall be distinctly branded or labeled with the true and appropriate name; nor shall any person offer or expose for sale, have in his possession with intent to sell, or sell any molasses or syrup mixed with glucose, unless the barrel, cask, keg or pail containing the same be distinctly branded or labeled 'Glucose Mixture,' and the per cent. in which glucose enters into its composition. Such barrel, cask, keg or pail shall be branded or labeled in a conspicuous place, and such brands or labels shall be in letters of not less than one-half inch in length. Glucose and glucose mixtures shall have no other designation than herein required." (Laws 1897, No. 118, Public Acts.)

MISSISSIPPI.

Adulterated food is forfeited to the county. (R. S., § 2107.)

MONTANA.

Section 682 of chapter 40 of title 10 of the Penal Code makes it a misdemeanor to adulterate or dilute any article of food, etc., with a fraudulent intent to sell, keep or offer for sale the same as unadulterated or undiluted. Section 683 of the same chapter and title declares it to be a misdemeanor to sell or keep for sale, or dispose of any article of food, etc., which has become unwholesome to be eaten or drank with intent to permit the same to be eaten or drank.

NEBRASKA.

The manufacturing for sale, offering for sale, or selling, any article of food which is adulterated is prohibited. The term "food" is defined to include all articles used for food or drink by man, whether simple, mixed or compound. An article of food shall be deemed to be adulterated: First. If a substance or substances have been mixed with it lowering or depreciating or injuriously affecting its quality, strength or purity. Second, If an inferior or cheaper substance or substances has been substituted wholly or in part for it. Third, If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it. Fourth, If it is an imitation of or is sold under the name of another article. Fifth, If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or in the case of milk, if it is the product of a diseased animal or diluted with any inferior liquid or mixed with any inferior substance. Sixth, If it is coated, polished or powdered whereby damage or inferiority is concealed or if by any means it is made to appear better or of a greater value than it really is. Seventh, If it contains any added substance or ingredient which is poisonous or injurious to health or any deleterious substance not a necessary ingredient in its manufacture. The provisions of this act do not apply to mixtures or compounds recognized as ordinary articles of food if the same be distinctly labeled as mixtures or compounds and are not injurious to health and contain no ingredients not necessary to the preparation of the genuine article of such mixtures or compounds and from which no necessary ingredient in its preparation is eliminated. Samples sufficient for an analysis, the value of the same being tendered of any article of food included in the provisions of this act, shall be furnished to any person interested or demanding the same, applying for the purpose, by every person manufacturing, offering or exposing for sale or delivering to a purchaser of any such article of food in his possession. The violation of any of the provisions of this act is deemed a misdemeanor, and punishable by a fine not exceeding one hundred nor less than twenty-five dollars, or imprisonment in the county jail not exceeding three months and shall pay in addition all necessary costs and expenses incurred in inspecting and analyzing such adulterated articles. (Laws 1897, chap. 99.)

NEW JERSEY.

Chapter 93, Laws 1897, is a supplement to the act approved March 25, 1881, and amends the sixth section of said act and provides that dealers in foods and drugs "shall supply any inspector appointed under this act, who shall apply to him for that purpose and on his tendering the value of the same, a sample sufficient for the purpose of analysis of any article of food or drugs, and which is in the possession of the person selling, under a penalty, not exceeding $50 for a first offense and $100 for a second and subsequent offense; said inspector shall at the time of the sale, in the presence of the person selling divide said sample into two parts, and shall duly seal each part in a suitable can, vessel or package, and shall tender, and, if accepted, shall deliver at the time of taking said sample, one part to the person selling, with a statement in writing of the cause of the sample having been taken; and in any prosecution of the seller, of any food or drugs for violation of any statute of this State relative thereto, no proof of the results of any analysis thereof shall be given in evidence by the prosecutor unless a part of the sample of the article complained of shall have been sealed up and tendered to the seller as aforesaid."

NORTH CAROLINA.

The importation of adulterated food, or food not branded, within the State is prohibited. The law also relates to original packages. (Laws 1895, chap. 122.)

NORTH DAKOTA.

Every person who adulterates or dilutes any article of food, drink, drug, medicine, strong, spirituous or malt liquor or wine, or any article useful in compounding either of them, whether one useful for mankind or animals, with a fraudulent intent to offer the same, or cause or permit it to be offered for sale as unadulterated or undiluted, and every person who fraudulently sells or keeps or offers for sale the same as unadulterated or undiluted, knowing it to have been adulterated, is guilty of a misdemeanor.

Every person who knowingly sells, or keeps or offers for sale or otherwise disposes of any article of food, drink, drug or medicine, knowing that the same has become tainted, decayed, spoiled or otherwise unwholesome or unfit to be eaten or drank, with intent to permit the same to be eaten or drank by any person or animal, is guilty of a misdemeanor. (P. C.; R. C., 1895, chap. 40, §§ 7309 and 7310.)

OHIO.

This law prohibits the manufacturing or selling of any adulterated article of food. Adulteration is deemed to be as follows: Any article which has mixed with it, or abstracted from it, any ingredient which lowers its quality or is injurious; any article made in imitation of, or sold under the name of another article, or falsely branded, or upon which art has been used to conceal inferiority, or in which there is fraud or deceit. (Laws 1884; amended by Laws 1890.)

OKLAHOMA TERRITORY.

It is deemed a misdemeanor to sell or offer for sale adulterated food knowing it to be adulterated. (Laws 1890, chap. 25.)

OREGON.

The sale or exchange, etc., of unwholesome, unclean, etc., foods of any kind whatever is prohibited. If adulterated food is sold it must be plainly marked so as to establish its true character; if in eating-rooms, the bill of fare shall state the fact that it is used; if there is no bill of fare, notice must be posted in a conspicuous place in said room. (Laws 1893, p. 99.)

PENNSYLVANIA.

Number 233 of the Laws of 1895 prohibits the manufacture for sale, offering for sale or selling, any article of food which is adulterated within the meaning of the act; défines the term "food" as used therein to include all articles used by man for food or drink, whether simple, mixed or compound, and prescribes what shall be deemed "adulterated food." Samples for analysis are to be furnished, if value of the same is tendered. Penalties are fixed for the violation of the law, and the dairy and food commissioner is charged with the enforcement of the same.

RHODE ISLAND.

Adulteration is punishable by fine or imprisonment, unless the same is made known to the buyer. (R. S., chap. 285.)

SOUTH CAROLINA.

Adulteration is punishable by fine or imprisonment and articles are forfeited and destroyed. (Laws 1885, No. 49.)

TENNESSEE.

The manufacture, importation or sale of any article of food or drink, which is adulterated or misbranded, is prohibited, and the violation of the provisions of this act is deemed a misdemeanor, punishable by a fine of not less than twenty-five nor more than one hundred dollars for the first offense, and for each subsequent offense not less than two hundred dollars, or by imprisonment in the county jail not exceeding one year, or both, in the discretion of the court. The State board of health is authorized and directed to establish a chemical and biological laboratory for the examination of food and drink offered for sale in Tennessee, as may be collected under the rules and regulations of said board, and the results of such examination shall be published in bulletins for the information of the people.

The State board of health is charged with the enforcement of this act, and it is not intended to create any office or allow compensation to any person or persons. The names of the manufacturers or venders of such food or drink analyzed shall not be published, until after conviction in the courts, of the violation of this act. If its provisions appear to be violated it is made the duty of the district attorney in the district in which it occurs to cause proceedings to be commenced and prosecuted for the fines and penalties in such cases provided, unless the district attorney shall decide that such proceedings cannot be sustained. The term "food and drink" includes all articles used for food or drink by man, whether simple, mixed or compound. The term "misbranded" includes all articles of food or drink or which enter into their composition, bearing any statement which names any ingredient as not being contained in such articles, which statement shall be false in any particular or which does not give the names of all the substances contained in such article in any measurable quantities. The adulteration of an article within the meaning of this act is defined, and is substantially the same as section 3, No. 168, Public Acts of the State of Michigan.

Samples of articles of food for analysis are to be furnished on application to an agent of the State board of health by the manufacturer or dealer of the same. Said sample is to be divided into three parts, and each part sealed with the seal of the State board of health, one part to be delivered to the said board, one to the dealer and one to the district attorney of the district. The sample left with the manufacturer or dealer may be analyzed at his own expense, and if the results differ from those of the State board of health the sample in the hands of the district attorney shall be analyzed by a third chemist or expert chosen and agreed upon by the said dealer and the State board of health, and the whole evidence shall be laid before the court. The non-compliance with section sixth of this act is deemed to be a misdemeanor and is punishable by a fine not exceeding one hundred dollars nor less than ten dollars, or imprisonment not exceeding three months nor less than thirty days, or both, and the manufacturing, or knowingly selling an adulterated, impure, or misbranded article of food or drink contrary to the provisions of this act, shall pay, in addition, the necessary costs and expenses of inspecting and analyzing such adulterated articles. All laws and parts of laws in conflict with this act are repealed. (Laws 1897, chap. 45.)

UTAH.

It is deemed a misdemeanor to sell or offer for sale as unadulterated or undiluted any article of food that is adulterated. (R. S., § 4574.)

VIRGINIA.

The adulteration of articles intended for food and drink is prohibited, and the adulterated articles are to be forfeited and destroyed. (Laws 1886, chap. 436, amended and re-enacted, Laws 1873, chap. 193.)

WEST VIRGINIA.

The fraudulently adulterating, for the purpose of sale, of anything intended for food or drink, or knowingly selling or bartering the same, is punishable by fine and imprisonment and forfeiture and destruction of the article. (Laws 1882, chap. 93.)

WISCONSIN.

Chapter 166, Laws 1897, is an act to provide against the adulteration of foods and drugs. The selling, exchanging, delivering or having in possession with intent to sell, of any article of food which is adulterated is prohibited. The term "food" shall include all articles used for food or drink by man, whether simple, mixed or compound. The adulteration of food is defined to mean: "First, If any substance or substances have been mixed with it, so as to lower or depreciate, or injuriously affect its strength, quality or purity; second, if any inferior or cheaper substance or substances have been substituted wholly or in part for it; third, if any valuable or necessary ingredient has been wholly or in part abstracted from it; fourth, if it is an imitation of, or is sold under the name of another article; fifth, if it consists wholly or in part of a diseased, infected, decomposed, putrid, tainted or rotten, animal or vegetable substance or article, whether manufactured or not; sixth, if it is colored, coated, polished or powdered, whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is; seventh, if it contains any added substance or ingredient which is poisonous, injurious or deleterious to health, or any deleterious substance not a necessary ingredient in its manufacture; provided, that the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles of food, if the same be distinctly labeled as mixtures or compounds, and from which no necessary ingredient in its preparation is eliminated."

No fruits, vegetables or other articles of food shall be packed, canned or preserved, sold, exchanged or delivered or had in possession with intent to sell or exchange after January 1, 1898, with the exception of goods brought from foreign countries unless such articles shall be distinctly labeled with the grade and quality of the same, together with the name and address of the person, firm or corporation, packing, canning or preserving the same, or the dealer who sells the same. The use of alum is prohibited in baking powders unless the presence of the same shall be distinctly shown by a label on the outside and face of which is printed in black ink in legible type the name and residence of the manufacturer, and the following words: "This Baking Powder Contains Alum." It is deemed a misdemeanor to violate any of the provisions of this act, and is punishable by a fine not exceeding one hundred nor less than twenty-five dollars for each and every offense. All acts and parts of acts inconsistent with this act are repealed. This act takes effect from and after January 1, 1898.

WYOMING.

It is a misdemeanor to adulterate any article of food with fraudulent intent to offer the same for sale as unadulterated. (Laws 1884, chap. 2.)

MISCELLANEOUS LAWS IN RELATION TO DAIRY PRODUCTS.

CALIFORNIA.

Any person, firm or corporation who offers for sale roll butter not of full weight to each roll is guilty of a misdemeanor. (Laws 1893, chap. 137.)

COLORADO.

County assessors are to furnish the number of cheese factories, number of pounds of butter and cheese made, number of oleomargarine or artificial butter factories in operation, and the number of pounds produced (Laws 1883, G. S., chap. 1.)

Dairy commissioner has power to examine, under oath or otherwise, any person whom he believes has knowledge concerning the sale or use of imitation butter. He is empowered to subpoena witnesses, require production of books and papers, and administer oaths; the witnesses are liable for contempt of court if they refuse to obey processes, etc. (Laws 1893, chap. 125.)

CONNECTICUT.

Chapter 93 of the Laws of 1895 regulates trade-marks on bottles or other vessels used in bottling or selling of milk and other liquids.

Chapter 145, Laws of 1897, is an act concerning the selling of tub butter and reads as follows:

Section 1. "No person by himself or his agent or his servant, shall sell, offer for sale or have in his possession, with intent to sell, any butter known as 'tub butter,' which is pressed or printed into what is known as bricks, pots or balls, except under the following conditions: Every such brick, pot or ball shall have the words 'tub butter' in one-half inch Roman letters, stamped or pressed upon it, and, if wrapped, the wrapper shall be marked in like manner. It shall be the duty of the dairy commissioner to attend to the enforcement of this act throughout the State; and for this purpose the commissioner and his deputy shall have free access at all reasonable hours to all places and premises where the dairy commissioner or his deputy suspect that any act in violation of this law has been or is being committed."

§ 2. "Any person violating any provision of this act shall be fined not more than $100."

DISTRICT OF COLUMBIA.

The law relating to the adulteration of food and drugs allows proof that the sale was made without knowledge of adulteration, and that the article must be such as is demanded by the purchaser in nature, substance and quality. (C. S., p. 173, §§ 86 and 87.)

In case of oleomargarine, the proof of sale shall be presumptive evidence of knowledge of the character of the article sold or offered for sale. (C. S., p. 177, § 110.)

IOWA.

Chapter 79 of the Laws of 1894 provides for the protection of persons engaged in bottling or selling lawful beverages, milk, cream, etc.

MAINE.

Chapter 144 of the Laws of 1895 fixes a penalty for holding any diseased meat or milk for human food; suspected cases of tuberculosis or glanders to be investigated by local boards of health, and the State cattle commissioners are to be notified.

MICHIGAN.

Number 249 of the Laws of 1895 authorizes the Michigan dairymen's association to hold a State institute or institutes, and to give instructions to the citizens of the State in the various branches of dairying, and makes an appropriation of $1,000 therefor.

Act No. 154, Public Acts 1897, amends sections 4, 5, 6, 9, 11 and 12 of Laws 1893, entitled, "An Act to provide for the appointment of a dairy and food commissioner, and to define his powers and duties and fix his compensation," as amended by Act 245 of the Session Laws of 1895.

Section 4 relates to the salary and office expenses of the dairy and food commissioner, the appointment of a deputy, clerk and inspectors, and fixes their salary.

Section 5 has reference to the appointment of a State analyst and assistant, and fixes their compensation; it also provides for the establishment of a laboratory with the necessary furniture, fixtures and chemical apparatus and appliances.

Section 6 prescribes the duties of the dairy and food commissioner, how they are to be performed, and provides for the taking of samples.

By section 9 the commissioner is to make an annual report to the Governor on or before the first day of July in each year, which is to be printed and published on or before the first day of September next thereafter, of the doings of his office, and shall also prepare and print a monthly bulletin containing the results of inspections and analysis and other information relating to the adulteration of food and drink and dairy products, for distribution to the papers of the State, and not more than ten thousand copies of the monthly bulletin for general distribution of a brief summary of all the work done during the month by the commissioner and his assistant in the enforcement of the laws of this State.

By section 11 an appropriation of eighteen thousand is made each year for the payment of salaries, expenses and accounts provided for in this act. All expenses for stationery and printing are to be paid for in the same manner as other State printing and stationery.

Section 12 provides that a tax levy is to be made annually of eighteen thousand dollars to be paid into the general fund to reimburse such fund for the amounts appropriated to carry into effect the provisions of this act.

MINNESOTA.

Chapter 202 of the Laws of 1895 requires that cans, bottles or vessels containing milk or cream transported over any railroad or boat-line, and to be returned, shall be emptied before said milk or cream becomes sour, and shall be immediately washed and thoroughly cleansed and aired. Penalties are fixed for the violation of the law, and the dairy and food commissioner is charged with its enforcement; fines accruing from prosecutions are to be credited by the State treasurer to the dairy and food commissioner fund.

Chapter 119, Laws 1897, amends section 13 of Chapter 247, Laws of 1889, thus: Every person who conveys milk in carriages, carts or otherwise for the purpose of selling the same in a city or town of one thousand (1,000), inhabitants or more, in the State of Minnesota, shall annually, on the first days of May, or within thirty (30) days thereafter, be licensed by the State dairy and food commissioner to sell milk within the limits of said city or town, and shall pay to the said State dairy and food commissioner the sum of one (1) dollar each to the use of said dairy and food commissioner. Licenses are to be used only in the names of the owners of carriages, carts, etc., and shall for the purpose of this act be conclusive evidence of ownership. No license shall be sold, assigned or transferred. Each license shall record the name, residence, place of business, number of carriages, carts, etc., used, the name and residence of every driver or other person engaged in selling said milk, and the number of the license. Each person licensed shall, before engaging in the sale of milk, cause his name, the number of his license and his place of business to be legibly placed on each outer side of all carriages, carts, etc., used by him in the conveyance and sale of milk, and he shall report to the State dairy and food commissioner any change of driver or other person employed by him, which may occur during the term of his license. Whoever, without being first licensed under the provisions of this section, sells milk or exposes it for sale from carriages, carts, etc., or has it in his custody or possession with intent to sell, and whoever violates any of the provisions of this section shall be punished by a fine of not less than ten (10) dollars nor more than fifty (50) dollars or by imprisonment in the county jail for not less than thirty (30) days.

MISSOURI.

The State board of health may call on the veterinarian to inspect diseased animals and foods therefrom. (Laws 1895, p. 37.)

NEW JERSEY.

Boards of health may prohibit the transportation or sale of any milk suspected to be contaminated, and penalties are fixed for the violation of the act. (Laws 1895, chap. 374.)

NORTH CAROLINA.

Chapter 586, Laws 1891, provides that agricultural statistics are to be gathered by tax listers.

NORTH DAKOTA.

The possession by any person or firm of any article or substance prohibited by this chapter shall be considered as *prima facie* evidence that the same is kept by such person or firm in violation of its provisions. The dairy commissioner is authorized to seize and take possession of such article or substance and, upon the order of any court which has jurisdiction, shall sell the same for any purpose other than for food. The proceeds of the sale of imitation butter shall be paid one-half to the informer and one-half into the State treasury, to be placed to the credit of the State dairy commissioner's fund. (P. C.; R. C., 1895, chap. 67, § 7643.)

Samples or specimens of any article in imitation of butter, or suspected of being of a spurious character, shall be analyzed or otherwise satisfactorily tested as to compounds by the chemist of the agricultural college at Fargo, free of expense, and a certificate of the analysis sworn to by the analyzer shall be admissible as evidence in all prosecutions under this chapter.

The sale or offering for sale of the substances mentioned in the foregoing section in packages not branded, stamped, marked or labeled, as in this chapter required, shall be *prima facie* evidence of knowledge of the character of such substance on the part of the person so selling or offering the same for sale, and his employer.

Nothing in this chapter shall be so construed as to prohibit the shipment of butter and cheese without unloading through the State of North Dakota.

For the purposes of this chapter the term " butter " or " cheese " shall be understood to mean the product usually known by that name and which is manufactured exclusively from milk or cream or both. (P. C.; R. C., 1895, chap. 67, §§ 7644, 7645, 7647 and 7648.)

OHIO.

Section 8 of this law relates to the packing, boxing, etc., as butter or cheese, falsely, so as to conceal an inferior article by placing a mark of a fair grade of butter or cheese upon the surface of the same. (Laws 1886, p. 180.)

Chapter 151 of the Laws of 1892 relates to the stamping of grade and place of manufacture of cheese, and the penalties are prescribed for selling unstamped cheese, falsifying and removing or defacing stamp.

Chapter 150 of the Laws of 1894 amends the general law and provides for the election by the people of a dairy and food commissioner and defines his powers.

OREGON.

If any suspected diseased cows are kept in and about any dairy, and if in a filthy and unhealthful condition, the State veterinarian is to be notified by the dairy and food commissioner; said commissioner notifies the proprietor that said dairy must be put in a healthful condition within three days; if neglected the commissioner is to see that it is done, and the proprietor is to pay the expense. The use of boxes of one creamery for the purpose of selling the butter of any other creamery or dairyman is punishable by fines and penalties.

The fines collected from prosecutions go to the common school fund of the State. (Laws 1893, p. 99.)

PENNSYLVANIA.

This law is to prevent and punish the wrongful use, detention or misappropriation of milk cans, butter tubs and market boxes from the owners thereof, and mutilation or obliteration of the name or residence of the owner, on such cans, tubs, or boxes. (Laws 1889, No. 81.)

A department of agriculture is established with a secretary of agriculture, whose duties are defined; also a live stock sanitary board "for the protection of health and the eradication of dangerous diseases among domestic animals." (Laws 1895, Nos. 8 and 66.)

RHODE ISLAND.

Inspectors of milk of any town or city or hereafter elected under authority of chapter 147 of the General Laws may appoint collectors of samples of milk with the same powers and be subject to the same duties and liabilities as an inspector of milk. The inspector has also the power of removal of collectors subject to the approval of the town council or the mayor or aldermen; collectors to receive such salary as they may determine.

SOUTH CAROLINA.

The evidence of the chemist of Clemson College shall be received in the courts of the State with regard to the composition and character of a suspected sample. All laws in conflict with this law are repealed. (Laws 1896, No. 96, p. 215.)

VIRGINIA.

These sections have reference to the inspection of butter tubs, firkins, kegs or barrels exceeding in weight fifty pounds. (C. V., 1887, §§ 1871, 1883.)

WASHINGTON.

"It shall be lawful for any farmer, gardener or other person, without license, to sell, deliver or peddle any fruits, vegetables, berries, butter, eggs, fish, milk, poultry, meats, or any farm produce or edibles raised, caught, produced or manufactured by such person in any place in this State, each and every day, except Sundays, and all city or town ordinances in violation hereof, are hereby declared void, and no city or town shall pass or enforce any ordinance requiring licenses from the producers and manufacturers of farm produce and edibles as herein defined. *Provided*, That this act shall not prohibit the sale or delivery of dairy products on Sunday." (Laws 1897, chap. 62.)

WISCONSIN.

The neglect to milk, or relieve a cow of her milk, for an unreasonable time, so that she suffers pain or swelling of her udder, is punishable by a fine. (Laws 1889, chap. 203.)

This chapter prohibits filling cheese with foreign fat. (Laws 1889, chap. 424.)

These chapters prohibit enriching skim-milk with butter. (Laws 1891, Chaps. 105 and 204.)

Chapter 257 of the Laws of 1895 regulates the sanitary condition of creameries, cheese factories and surroundings, and provides for the seizure and condemnation of imitation dairy products.

WYOMING.

It is lawful to sell milk on Sunday. (Laws 1888, chap. 86.)

CANADA — PROVINCE OF ONTARIO.

Chapter 24 of Victoria 51, amended by chapter 41 of Victoria 58, provides for the incorporation of cheese and butter manufacturing associations, regulates their formation and establishes rules for their government.

AGRICULTURAL LAW

OF THE

STATE OF NEW YORK.

1893—1897.

AGRICULTURAL LAW.

CHAPTER 338.

AN ACT in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws.

Approved by the Governor April 10, 1893. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

CHAPTER XXXIII OF THE GENERAL LAWS.

THE AGRICULTURAL LAW.

Article 1. General provisions. (§§ 1-12.)
2. Dairy products. (§§ 20-37.)
3. Adulterated vinegar. (§§ 50-53.)
4. Diseases of domestic animals. (§§ 60-71.)
*5. Miscellaneous provisions. (§§ 80-90.)
†6. Forest preserve. (§§ 100-116.)
†7 Adirondack park. (§§ 120-127.)

ARTICLE I.

GENERAL PROVISIONS.

Section 1. Short title.
2. Commissioner of agriculture.
3. Power of commissioner, his assistants and employes.
4. Expert butter and cheesemakers.
5. Annual report.
6. Certificate of chemist presumptive evidence.
7. Evidence; principal's liability for acts of agent.
8. Prosecution for penalty.
9. Disposal of fines and moneys recovered.
10. When injunction may be obtained.
11. When prosecution shall not be compelled to elect.
12. Inspection, how conducted.

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*Chapter 500 of the Laws of 1897 amends the Agricultural Law by making a new Article 5 (sugar beet culture), and makes Articles 5 and 6 Articles 6 and 7.

†Repealed and new Article 6 enacted by chapter 395, Laws of 1895.

§ 1. **Short title.** This chapter shall be known as the agricultural law.

§ 2. **Commissioner of agriculture.** There shall be a department of the state government known as the department of agriculture, which shall be charged with the execution of the laws relating to agriculture and agricultural products. The commissioner of agriculture shall be the chief of the department. The New York state dairy commissioner shall be the commissioner of agriculture until his successor shall be appointed and qualified. The commissioner of agriculture shall be appointed by the governor, by and with the advice and consent of the senate. His term of office shall be three years. He shall be paid an annual salary of four thousand dollars and his necessary expenses not to exceed five hundred dollars, incurred in the discharge of his official duties. He may appoint a director of farmers' institutes and such clerks and assistant commissioners and employ such clerks, chemists, agents and counsel as he may deem necessary for the proper enforcement of such laws and the proper administration of the department, who shall receive such compensation as may be fixed by him and their necessary expenses. The compensation of his clerks, assistants and other persons employed by him and such necessary expenses shall be paid on his certificate by the treasurer on the warrant of the comptroller. All other charges, accounts and expenses of the department authorized by law shall be paid by the treasurer on the warrant of the comptroller, after they have been audited and allowed by the comptroller. The trustees of public buildings shall furnish suitable rooms for the use of the department in the new capitol.

§ 3. **Powers of the commissioners,* his assistant and employes.** The commissioner of agriculture, his clerks, assistants, experts, chemists, agents and counsel employed by him, shall have full access to all places of business, factories, farms, buildings, carriages, cars and vessels used in the manufacture, sale or transportation within the state of any dairy products or any imitation thereof, or of any article or product with respect to which any authority is conferred by this chapter on such commissioner. They may examine and open any package, can or vessel containing or believed to contain, any article or product, which may be manufactured, sold or exposed for sale in violation of the provisions of this chapter, and may inspect the contents therein, and take therefrom samples for analysis.

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*So in the original.

§ 4. **Expert butter and cheese makers.** The commissioner of agriculture may appoint and employ not more than five expert butter and cheesemakers, who shall, under his direction, examine and inspect butter and cheese factories and attend at agricultural fairs, societies and meetings designated by the commissioner, to impart thereat information as to the best and most approved method of making butter and cheese and improving the quality thereof.

§ 5. **Annual report.** The commissioner of agriculture shall make an annual report to the legislature on or before January fifteenth, of his work and proceedings for the year ending September thirtieth, next preceding which shall include a statement in detail of the number of assistant commissioners, chemists, experts, agents, and counsel employed under the provisions of this chapter during such year, and their compensation, expenses and disbursements; and also a statement in detail of the expenditures of moneys appropriated for the state agricultural society, the county agricultural societies and the New York agricultural experiment station; and other agricultural purposes and estimates of the amounts required for all such purposes for the ensuing year. He may require the state agricultural society and the county agricultural societies to make reports to him and prescribe the form of such reports.

§ 6. **Certificate of chemist presumptive evidence.** Every certificate, duly signed and acknowledged, of a chemist, analyst or other expert employed by the commissioner of agriculture or any analysis, examination or investigation made by such analyst, chemist or expert with respect to any matter or product which the commissioner has authority to examine or cause to be examined, shall be presumptive evidence of the facts therein stated.

§ 7. **Evidence; principal's liability for act of agent.** The doing of anything prohibited by this chapter shall be evidence of the violation of the provisions of this chapter relating to the thing so prohibited and the omission to do anything directed to be done shall be evidence of a violation of the provisions of the chapter relative to the thing so directed to be done. The intent of any person doing or omitting to do any such act is immaterial in any prosecution for a violation of the provisions of this chapter. Any person who suffers, permits or allows any violation of the provisions of this chapter by his agent or servant, or in any room or building occupied or controlled by him, shall be deemed a principal in such violation and liable accordingly.

§ 8. **Prosecution for penalties.** Whenever the commissioner of agriculture shall know or have reason to believe that any penalty has been incurred by any person for a violation of any of the provisions of this chapter, or that any sum has been forfeited by reason of any such violation, he may cause an action or proceeding to be brought in the name of the people for the recovery of the same.

§ 9. **Disposal of fines and moneys recovered.** One-half of all money recovered, either as penalties, forfeitures or otherwise, for the violation of any of the provisions of this chapter, and from fines imposed as a punishment for any criminal offense committed in violation of the provisions of this chapter, or of the penal code relating to the punishment of criminal offenses committed in violation of the provisions of law for the prevention of frauds in the manufacture or sale of any of the articles or products to which this chapter relates, shall be paid by the court or the clerk thereof to the city or county where the recovery shall be had or fine collected for the benefit of the poor of such city or county, except in the city and county of New York and the city of Brooklyn, where the same shall paid to the proper authorities, and equally divided by them between the pension funds of the police and fire departments. The residue of such moneys shall be paid into the treasury of the state, and paid out by the treasurer, upon the warrant of the comptroller, for the purpose of defraying the expenses of the department of agriculture, audited by the comptroller. The same disposal shall be made of all moneys recovered upon any bond given by any officer by virtue of the provisions of this chapter.

§ 10. **When injunctions may be obtained.** In an action in the supreme court for the recovery of a penalty or forfeiture incurred for the violation of any of the provisions of this chapter an application may be made on the part of the people to the court or any justice thereof for an injunction to restrain the defendant, his agents and employes from the further violation of such provisions. The court or justice to whom such application may be made, shall grant such injunction on proof, by affidavit, that the defendant has been guilty of the violations alleged in the complaint, or of a violation of any such provision subsequent to the commencement of the action, and in the same manner as injunctions are usually granted under the rules and practice of the court. No security on the part of the plaintiff shall be required, and costs of the application may be granted or refused in the discretion of the court or justice. If the plaintiff shall recover judgment in the action for any penalty or forfeiture demanded in the complaint, the judgment shall contain a permanent injunction, restraining the defendant, his agents and employes, from any further violation of such provision of this chapter. Any injunction, order or judgment obtained under this section may be served on the defendant by posting the same upon the outer door of the defendant's usual place of business, or where such violation was or may be committed, or in the manner required by the code of civil procedure, and the rules and practice of the court. Personal service of the injunction shall not be necessary when such service cannot be secured with reasonable diligence, but the service herein provided shall be deemed sufficient in any proceeding for the violation of such injunction.

§ 11. **When prosecution shall not be compelled to elect.** In an action for a penalty or forfeiture incurred by reason of the violation of the provisions of this chapter, when the complaint charges a violation of any two or all of such provisions, the plaintiff shall not be compelled to elect between the counts under such different provisions, but shall be entitled to recover if it is found that a violation of any one of such provisions has been committed for which a penalty or forfeiture is imposed.

§ 12. **Inspection, how conducted.** When tbe commissioner of agriculture, an assistant commissioner, or any person or officer authorized by the commissioner, or by this chapter, to examine or inspect any product manufactured or offered for sale shall in discharge of his duties take samples of such product, he shall take duplicate samples thereof in the presence of at least one witness, and he shall in the presence of such witness seal both of such samples, and shall tender, and, if accepted, deliver at the time of taking one sample to the manufacturer or vendor of such product, or to the person having custody of the same, with a statement in writing of the cause of the taking of the sample.

ARTICLE II.

DAIRY PRODUCTS.

Section 20. Definitions.
21. Care and feed of cows.
22. Prohibition of the sale of adulterated milk.
23. Regulations in regard to butter and cheese factories.
24. Cans to be branded with name of county.
25. Regulations in regard to condensed milk.
26. Manufacture and sale of imitation butter prohibited.
27. Manufacture or mixing of animal fats with milk, cream or butter prohibited.
28. Prohibited articles not to be furnished for use.
29. Use of coloring matter prohibited.
30. Manufacture and sale of imitation cheese prohibited.
31. When prohibitions do not apply to skim milk or skim cheese.
32. Packages to be branded with name of maker.
33. Manufacturer's brand of cheese.
34. Use of false brand prohibited.
35. County trade-marks.
36. Object and intent of this article.
37. Penalties.

§ 20. **Definitions.** The terms, butter and cheese, when used in this article, mean, the products of the dairy, usually known by those terms, which are manufactured exclusively from pure, unadulterated milk or cream or both, with or without salt or rennet, and with or without coloring matter or sage. The terms oleomargarine, butterine, imitation butter or imitation cheese, shall be construed to mean any article or substance in the semblance of butter or cheese not the usual product of the dairy, and not made exclusively of pure and unadulterated milk or cream, or any such article or substance into which any oil, lard or fat not produced from milk or cream enters as a component part, or into which melted butter or butter in any condition or state, or any oil thereof has been introduced to take the place of cream. The term, adulterated milk, when so used, means:

1. Milk containing more than eighty-eight per centum of water or fluids.

2. Milk containing less than twelve per centum of milk solids.

3. Milk containing less than three per centum of fats.

4. Milk drawn from cows within fifteen days before and five days after parturition.

5. Milk drawn from animals fed on distillery waste or any substance in a state of fermentation or putrefaction or on any unhealthy food.

6. Milk drawn from cows kept in a crowded or unhealthy condition.

7. Milk from which any part of the cream has been removed.

8. Milk which has been diluted with water or any other fluid, or to which has been added or into which has been introduced any foreign substance whatever.

All adulterated milk shall be deemed unclean, unhealthy, impure and unwholesome. The terms, pure milk or unadulterated milk, when used singly or together mean sweet milk not adulterated, and the terms pure cream or unadulterated cream, when used singly or together mean cream taken from pure and unadulterated milk.

§ 21. **Care and feed of cows.** No person shall keep cows, for the production of milk for market or for sale or exchange, or for manufacturing the milk or cream from the same into any article of food, in a crowded or unhealthy condition, or feed any such cows on distillery waste or on any substance in the state of putrefaction or fermentation, or upon any food that is unhealthy or that produces impure, unhealthy, diseased or unwholesome milk. But this section shall not be construed to prohibit the feeding of ensilage.

§ 22. **Prohibition of the sale of adulterated milk.** No person shall sell or exchange, or offer or expose for sale or exchange, any unclean, impure, unhealthy, adulterated or unwholesome milk or any cream from the same, or sell or exchange or offer or expose for sale or exchange any article of food made from such milk, or of or from cream from the same, or manufacture from any such milk or cream from the same, any article of food.

§ 23. **Regulations in regard to butter and cheese factories.** No person shall sell, supply or bring to be manufactured to any butter or cheese factory any milk diluted with water, or any unclean, impure, unhealthy, adulterated or unwholesome milk, or milk from which any of the cream has been taken, except pure skim milk to skim-cheese factories. No person shall sell, supply or bring to be manufactured to any butter or cheese factory any milk from which there has been kept back any part of the milk commonly known as strippings, or any milk that is sour, except pure skim milk to skim-cheese factories. The owner or proprietor or the persons having charge of any butter or cheese factory, not buying all the milk used by him, shall not use for his own benefit, or allow any of his employes or any other person to use for his own benefit, any milk, cream, butter or cheese or any other product thereof, brought to such factory, without the consent of the owners of such milk or the products thereof. Every butter or cheese manufacturer not buying all the milk he uses, shall keep a correct account of all the milk daily received, of the number of packages of butter and cheese made each day, and the number of packages and aggregate weight of cheese and butter disposed of each day; which account shall be open to inspection to any person who delivers milk to such factory.

§ 24. **Cans to be branded with the name of county.** No person shall sell or offer or expose for sale or exchange any milk, except in the county where produced, unless each can, vessel or package containing such milk shall be distinctly and durably branded with letters not less than one inch in length and of a suitable width to correspond with such length, and with suitable spaces between the letters, on the outside, above the center, on every can, vessel or package containing such milk, the name of the county from which the same is produced; and the same letters shall be branded or painted in a conspicuous place on the carriage or vehicle in which the milk is drawn to be sold; and such milk shall not be sold by the producer outside of the county in which it is produced, except in or out of a can, vessel, package or carriage or vehicle so marked. The foregoing prohibitions and provisions of this section shall not apply when milk is sold or delivered in glass bottles. No milk shall be sold or delivered in glass bottles, except in the county where produced, unless such bottles shall have legibly blown, stamped, engraved, etched, impressed or moulded in the glass, or otherwise produced upon such bottles, the name of the vendor, or the same is on a label or cover affixed thereto, or there is some mark or device on or affixed to such bottles by which the vendor may be ascertained.

(*Amended by section* 1 *of chapter* 143 *of the Laws of* 1894.)

§ 25. **Regulations in regard to condensed milk.** No condensed milk shall be made or offered or exposed for sale or exchange unless manufactured from pure, clean, healthy, fresh, unadulterated and wholesome milk from which the cream has not been removed. No person shall manufacture, sell or offer for sale or exchange in hermetically sealed cans any condensed milk containing less than twenty-five per centum of butter fats and unless put up in packages upon which shall be distinctly labeled or stamped the name of the person or corporation by whom made and the brand by which or under which it is made. When condensed milk shall be sold from cans or packages not hermetically sealed, the vendor shall brand or label such cans or packages with the name of the manufacturer of the milk contained therein.

(*Amended by section* 1 *of chapter* 426 *of the Laws of* 1894, *and section* 1 *of chapter* 768 *of the Laws of* 1897.

§ 26. **Manufacture and sale of imitation butter prohibited.** No person by himself, his agents or employes, shall produce or manufacture out of or from any animal fats or animal or vegetable oils not produced from unadulterated milk or cream from the same, the article known as oleomargarine or any article or product in imitation or semblance of natural butter produced from pure, unadulterated milk or cream of the same; or mix, compound with or add to milk, cream or butter any acids or other deleterious substance or any animal fats or animal or vegetable oils not produced from milk or cream, so as to produce any article or substance or any human food in imitation or in the semblance of natural butter, nor sell, keep for sale or offer for sale any article, substance, or compound made, manufactured or produced in violation of the provisions of this section, whether such article, substance or compound shall be made or produced in this state or elsewhere.

§ 27. **Manufacture of (*) mixing of animal fats with milk, cream or butter prohibited.** No person shall manufacture, mix or compound with or add to natural milk, cream or butter any animal fats or animal or vegetable oils, nor make or manufacture any oleaginous substance not produced from milk or cream, with intent to sell the same as butter or cheese made from unadulterated milk or cream or have the same in his possession with such intent; nor shall any person solicit or take orders for the same or offer the same for sale, nor shall any such article or substance or compound so made or produced, be sold as and for butter or cheese the product of the dairy. No person shall coat, powder or color with annatto or any coloring matter whatever, butterine or oleomargarine or any compound of the same or any product or manufacture made in whole or in part from animal fats or animal or vegetable oils not produced from unadulterated milk or cream by means of which such product, manufacture or compound shall resemble butter or cheese, the product of the dairy; nor shall he have the same in his possession with intent to sell the same nor shall he sell or offer to sell the same.

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* So in the original.

§ 28. **Prohibited articles not to be furnished.** No keeper or proprietor of any bakery, hotel, boarding-house, restaurant, saloon, lunch-counter or place of public entertainment, or any person having charge thereof or employed thereat, or any person furnishing board for any others than members of his own family, or for any employes where such board is furnished for a compensation or as part of the compensation of any such employe, shall keep, use or serve therein either as food for his guests, boarders, patrons, customers or employes or for cooking purposes any article or substance made in violation of the provisions of this article.

§ 29. **Use of coloring matter prohibited.** No person manufacturing with intent to sell any substance or article in imitation or semblance of butter or cheese not made exclusively from unadulterated milk or cream or both, with salt or rennet or both and with or without coloring matter or sage, but into which any animal, intestinal or offal fats, or any oils or fats or oleaginous substance of any kind not produced from from* pure, unadulterated milk or cream, or into which melted butter, or butter in any condition or state or any modification of the same, or lard or tallow shall be introduced, shall add thereto or combine therewith any annatto or compounds of the same, or any other substance or substances whatever, for the purpose or with the effect of imparting thereto a color resembling yellow, or any shade of yellow butter or cheese, nor introduce any such coloring matter or other substance into any of the articles of which the same is composed.

§ 30. **Manufacture and sale of imitation cheese prohibited.** No person shall manufacture, deal in, sell, offer or expose for sale or exchange any article or substance, in the semblance of or in imitation of cheese made exclusively of unadulterated milk or cream, or both, into which any animal, intestinal or offal fats or oils, or melted butter or butter in any condition or state or modification of the same, or oleaginous substances of any kind not produced from unadulterated milk or cream, shall be introduced.

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* So in the original.

§ 31. **When prohibition does not apply to skim-milk or skim-cheese.** Except in the counties of New York and Kings, the prohibitions contained in this article against the sale of adulterated milk shall not apply to skim-milk, which is clean, pure, healthy, wholesome and unadulterated, except by skimming, sold for use in the county in which it is produced or an adjoining county, if it is sold for and as skimmed milk. The prohibitions in this article against the sale of cheese made from unadulterated milk or cream, shall not apply to pure skim-cheese made from milk which is clean, pure, healthy, wholesome and unadulterated, except by skimming.

§ 32. **Packages to be branded with name of maker.** No manufacturer of receptacles for the package of butter shall sell or dispose of any such receptacle without branding his name and the true weight of the receptacle upon the same with legible letters or figures not less than one-quarter of an inch in length. No person shall sell, or offer for sale, any package containing butter or lard packed by him unless the true weight thereof, with the initial letters of the name of the person packing such butter or lard, be marked or stamped in a legible manner on the side or head of such package.

§ 33. **Manufacturer's brand of cheese.** Every manufacturer of full-milk cheese may put a brand upon each cheese indicating "full-milk cheese," and the date of the month and year when made, and no person shall use such a brand upon any cheese made from milk from which any of the cream has been taken. The commissioner of agriculture shall procure and issue to the cheese manufacturers of the state on proper application therefor, and under such regulations as to the custody and use thereof as he may prescribe, a uniform stencil brand, bearing a suitable device or motto, and the words, "New York state full-cream cheese.". Every such brand shall be used upon the outside of the cheese and upon the package containing the same, and shall bear a different number for each separate factory. The commissioner shall keep a book, in which shall be registered the name, location and number of each manufactory using the brand, and the name or names of the persons at each manufactory authorized to use the same. No such brand shall be used upon any other than full-cream cheese or packages containing the same.

§ 34. **Use of false brand prohibited.** No person shall offer to sell, or expose for sale, in any package, butter or cheese which is falsely branded or labeled.

§ 35. **County trade marks.** At a regular or special meeting of a county dairymen's association in any county of the state there may be adopted a county trade mark, by a majority of the members present and voting, to be used as a trade mark by am* person manufacturing pure unadulterated butter or full-cream cheese in such county. The secretary of the association shall forthwith send to the commissioner of agriculture a copy of such trade mark, which copy he shall place on file in his office, noting thereupon the day and hour he received the same. But one county trade mark for butter and for cheese shall be placed on file for the same county. No association shall adopt any trade mark of any county already on file, or use that of any other county in the formation of a trade mark.

§ 36. **Object and intent of this article.** This article and each section thereof are declared to be enacted to prevent deception in the sale of dairy products, and to preserve the public health, which is endangered by the manufacture, sale and use of the articles or substances herein regulated or prohibited.

(*Amended by chapter* 554 *of the Laws of* 1897.)

§ 37. **Penalties.** Every person violating any of the provisions of this article shall forfeit to the people of the state of New York the sum of one hundred dollars for every such violation. When such violation consists of the manufacture or production of any prohibited article, each day during which or any part of which such manufacture or production is carried on or continued, shall be deemed a separate violation of the provisions of this article. When the violation consists of the sale, or the offering or exposing for sale or exchange of any prohibited article or substance, the sale of each one of several packages shall constitute a separate violation, and each day on which any such article or substance is offered or exposed for sale or exchange shall constitute a separate violation of this article. When the use of any such article or substance is prohibited, each day during which or any part of which said article or substance is so used or furnished for use, shall constitute a separate violation, and the furnishing of the same for use to each person to whom the same may be furnished shall constitute a separate violation.

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*So in the original.

ARTICLE III.

ADULTERATED VINEGAR.

Section 50. Definition of adulterated vinegar.
51. Manufacture and sale of adulterated or imitation vinegar prohibited.
52. Packages containing cider vinegar to be branded.
53. Penalties.

§ 50. **Definition of adulterated vinegar.** All vinegar which contains any proportion of lead, copper, sulphuric acid, or other ingredients injurious to health, or any artificial coloring matter or which has not an acidity equivalent to the presence of at least four and one-half per centum, by weight, of absolute acetic acid, or cider vinegar which has less than such an amount of acidity, or less than two per centum of cider vinegar solids on full evaporation over boiling water, shall be deemed adulterated. The term, cider vinegar, when used in this article means vinegar made exclusively from pure apple juice.

§ 51. **Manufacture and sale of adulterated or imitation vinegar prohibited.** No person shall manufacture for sale, keep for sale or offer for sale:

1. Any adulterated vinegar.
2. Any vinegar or product in imitation or semblance of cider vinegar, which is not cider vinegar.
3. As or for cider vinegar, any vinegar or product which is not cider vinegar.

§ 52. **Packages containing cider vinegar to be branded.** Every manufacturer or producer of cider vinegar shall plainly brand on the head of each cask, barrel, keg or other package containing such vinegar, his name and place of business and the words, "cider vinegar." And no person shall mark or brand as or for cider vinegar any package containing that which is not cider vinegar.

§ 53. **Penalties.** Every person violating the provisions of this article shall forfeit and pay to the people of the state the sum of one hundred dollars for each violation.

ARTICLE IV.

DISEASES OF DOMESTIC ANIMALS.

Section 60. Suppression of infectious or contagious disease.
61. Commissioner to issue notice.
62. Farms to be quarantined.
63. Detention and destruction of animals.
64. Employment of veterinary surgeons.
65. Regulations and enforcement thereof.
66. Penalties.
67. Expenses.
68. Compensation to owners of animals destroyed.
69. Federal regulations.
70. Rights of federal inspectors.

§ 60. **Suppression of infectious and contagious disease.** Whenever any infectious or contagious disease except tuberculosis and glanders affecting domestic animals shall be brought into or break out in this state, the commissioner of agriculture shall take measures to promptly suppress the same, and to prevent such disease from spreading.

§ 61. **Commissioner to issue notice.** He shall issue and publish a notice, stating that a specified infectious or contagious disease exists in any designated county or other geographical district of the state, and warning all persons to seclude in the premises where they may be at the time, all animals within such county or district, that are of a kind susceptible to contract such disease, and ordering all persons to take such precautions against the spreading of the disease, as the nature thereof may in his judgment render necessary or expedient, and which he may specify in such notice. Such notice shall be published in such newspapers, and be posted in such manner as the commissioner may designate, and as, in his judgment, are most likely to give notice thereof.

§ 62. **Farms to be quarantined.** The commissioner or an assistant commissioner, shall order any premises, farm or farms where such disease exists, or recently existed, to be put in quarantine, so that no domestic animal be removed from or brought to the premises or places quarantined, and shall prescribe such regulations as he may judge necessary or expedient to prevent the communication of the disease by infection or contagion, in any way from the places so quarantined.

§ 63. **Detention and destruction of animals.** The commissioner or an assistant commissioner, may order all or any animals coming into the state to be detained at any place or places for the purpose of inspection and examination. He may prescribe regulations for the destruction of animals affected with infectious or contagious disease, and for the proper disposal of their hides and carcasses, and of all objects which might carry infection or contagion. Whenever, in his judgment necessary, for the more speedy and economical suppression or prevention of the spread of any such disease, he may cause to be slaughtered, and to be afterwards disposed of, in such manner as he may deem expedient, any animal or animals, which, by contact or association with diseased animals, or by other exposure to infection or contagion, may be considered or suspected to be liable to contract or communicate the disease sought to be suppressed or prevented.

§ 64. **Employment of veterinary surgeons.** The commissioner may employ such and so many medical and veterinary practitioners and such other persons as he may, from time to time, deem necessary to assist him in discharging the duties imposed upon him by this article, and may fix their compensation. All persons now employed by the governor for such purposes shall continue in the employ of the commissioner upon the same terms, until such employment shall be terminated or modified by the commissioner. No animal shall be destroyed by the commissioner or by his order, on the ground that it is a diseased animal, unless first examined by a medical or veterinary practitioner in the employ of the commissioner under this section, nor until such practitioner renders a certificate to the effect that he has made such examination, that in his judgment such animal is affected with a specified infectious or contagious disease, or that its destruction is necessary in order to suppress or aid in suppressing such disease, or to prevent such disease, or to prevent the spread thereof specifying the reasons for such necessity.

§ 65. **Regulations and the enforcement thereof.** The commissioner may prescribe such regulations as in his judgment may be thought suited for the suppression or prevention of the spread of any such disease, and for the disinfection of all premises, buildings, railway cars, vessels and other objects from or by means of which infection or contagion may take place or be conveyed. He may alter or modify, from time to time, as he may deem expedient, the terms of all notices, orders and regulations issued or made by him, and may at any time cancel or withdraw the same. He may call upon the sheriff or deputy sheriff, to carry out and enforce the provisions of any notice, order or regulation which he may make, and all such sheriffs and deputy sheriffs shall obey and observe all orders and instructions which they may receive from him in the premises.

§ 66. **Penalties.** Any person violating, disobeying or disregarding the terms of any notice, order or regulation, issued or prescribed by the commissioner under this article, shall forfeit to the people of the state the sum of one hundred dollars for every such violation.

§ 67. **Expenses.** All expenses incurred by the commissioner in carrying out the provisions of this article and in performing the duties herein devolved upon him shall be audited by the comptroller as extraordinary expenses of the department of agriculture, and paid out of any moneys in the treasury appropriated for such purposes.

§ 68. **Compensation to owners of animals destroyed.** The actual value at the time they are killed of any animals slaughtered under the provisions of this article, shall be paid to the owners of such animals. For the purpose of ascertaining and determining such value, the commissioner, or any agent appointed by him under this article, shall appoint one appraiser, the owner of the animals killed shall appoint another, and the two thus appointed shall select a third, and the three shall appraise the amount to be paid to the owner of the animals. The board of claims shall have exclusive jurisdiction to hear, audit and determine all claims which shall arise under the provisions of this article for compensation for animals slaughtered, and to allow thereon such sums as should be paid by the state. No compensation shall be made to any person who has willfully concealed the existence of disease among his animals or upon his premises, or who in any way by act or by willful neglect, has contributed to spread the disease sought to be suppressed or prevented.

§ 69. **Federal regulations.** The commissioner of agriculture may accept, in behalf of the state, the rules and regulations prepared and adopted by the commissioner of agriculture or the secretary or department of agriculture of the United States, under any act of congress for the establishment of a bureau of animal industry or to prevent the exportation of diseased cattle or to provide means for the extirpation and suppression of pleuro-pneumonia and other contagious diseases among domestic animals and shall co-operate with the authorities of the United States in the enforcement of the provisions of any such act.

§ 70. **Rights of federal inspectors.** The inspectors of the bureau of animal industry of the United States shall have the right of inspection, quarantine and condemnation of animals affected with any contagious, infectious or communicable disease, or suspected to be so affected or that may have been exposed to any such disease, and for such purposes they may enter upon any ground or premises; they may call the sheriffs, constables and peace officers to assist them in discharge of their duties in carrying out the provisions of any such act; and all sheriffs, constables and peace officers shall assist such inspectors when so requested, and such inspectors shall have the same powers and protection as peace officers, while engaged in the discharge of their duties. This state shall not be liable for any damages or expenses caused or made by such inspectors.

ARTICLE V.

MISCELLANEOUS PROVISIONS.

Section 80. The prevention of diseases among bees.
81. Proceedings of the agent of the commissioners.
82. The prevention of disease in fruit trees.
83. Appointment and duties of the agent of the commissioner of agriculture.
84. Proceedings in case of owner's failure to destroy.
85. The New York agricultural experiment station.
86. The state weather bureau.
87. The agricultural experiment station at Cornell university.
88. Receipts and apportionment of state moneys appropriated for the promotion of agriculture.
89. When agricultural societies entitled to additional sums from the state.
90. Annual report of the commissioner of agriculture and state society.

§ 80. **The prevention of diseases among bees.** No person shall keep in his apiary any colony of bees affected with a contagious malady known as foul brood and every bee-keeper, when he becomes aware of the existence of such disease among his bees, shall destroy or cause to be destroyed forthwith all colonies thus affected. In any county any five or more actual bee-keepers of the county in which foul brood exists, may present to the commissioner of agriculture a petition setting forth that such disease exists, or that the petitioners have reason to believe that it exists in such county, and the reasons of such belief and requesting him to appoint a competent person to prevent the spread of such disease, and eradicate the same.

Upon the receipt of such petition the commissioner of agriculture shall within thirty days thereafter appoint some well-known and competent bee-keeper of the county as an agent of the commissioner who shall hold his office during the pleasure of the commissioner of agriculture, and who shall within ten days after his appointment, file in the office of the county clerk of the county an acceptance of the appointment and constitutional oath of office.

§ 81. **Proceedings of the agent of the commissioner.** Upon written verified complaint of any two bee-keepers of the county to such agent, setting forth the existence of the disease, or that they have good reason to believe that it exists within the county, and the grounds of such belief, designating the apiary or apiaries wherein they believe it to be, such agent shall, without unnecessary delay, examine the bees so designated. If satisfied that any colony or colonies of such bees are diseased with foul brood, he shall, without further disturbance to the bees, fix some designating mark upon each hive wherein the disease exists, and immediately notify the owners of the bees, or by leaving a written notice at his place of residence, if he be a resident of the county, and if not, by leaving the same with the person in charge of such bees, requiring him within five days from the date of the notice to effectually remove or destroy such hive with its entire contents by burying them, or by fire. The agent of the commissioner shall be allowed for his services, under this section, two dollars for each full day spent by him in the discharge of his official duties, which shall be a county charge.

§ 82. **The prevention of disease in fruit trees.** No person shall knowingly or willfully keep any peach, almond, apricot or nectarine tree affected with a contagious disease known as yellows, or offer for sale or shipment, or sell or ship to others any of the fruit thereof. Nor shall any person knowingly or willfully keep any plum, cherry or other trees infected with the contagious disease or fungus, known as black knot. Every such tree and the fruit of a tree infected with yellows shall be a public nuisance, and no damages shall be awarded for entering upon premises and destroying such trees and fruit if infected with yellows or for cutting away the diseased part of any tree infected with black knot or altogether destroying such tree if necessary to suppress such disease, if done in accordance with the provisions of this article. Every person when he becomes aware of the existence of such disease in any tree or fruit owned by him, shall forthwith destroy or cause such tree or fruit to be destroyed or the infected part to be cut away.

(*Amended by chapter* 134 *of the Laws of* 1895.)

§ 83. **Appointment and duties of the agent of the commissioner of agriculture.** When the commissioner of agriculture knows and has reason to believe that any such contagious disease exists, or that there is good reason to believe it exists, or danger is justly apprehended of its introduction in any town or city in the state, he shall forthwith appoint a competent freeholder of such town or city as his agent, who shall hold office during his pleasure and who shall within ten days after his appointment, file an acceptance of the appointment, with the constitutional oath of office, in the office of the town clerk of the town. Such agent shall on or without complaint, whenever it comes to his notice that either of the diseases known as yellows or black knot exists or is supposed to exist within the limits of the town or city, proceed without delay to examine the trees or fruit supposed to be infected, and if the disease is found to exist, a distinguishing mark shall be placed upon the diseased trees. If the disease is the black knot, such distinguishing mark shall be placed on some affected part of the trees, or if in the judgment of such agent any such trees should be entirely destroyed, then the trunk of such tree shall be thoroughly girdled, and thereupon the owner notified personally, or by a written notice signed by such agent and left at his usual place of residence, or if a nonresident by leaving the notice with the person in charge of the trees or fruit, or in whose possession they may be. Such notice shall contain a statement of all the facts found to exist, with an order to effectually remove and destroy by fire or otherwise the trees or parts of trees so marked and designated, within ten days, Sundays excepted, from the day of the service of the notice. In case of fruit so infected, the notice shall require the person in whose possession or control it is found, to immediately destroy the same or cause it to be done.

§ 84. **Proceedings in case of owner's failure to destroy.** If any person shall refuse or neglect to comply with the order of such agent to remove and destroy trees or parts of trees so marked by him, such agent shall cause such trees or parts of trees to be removed and destroyed forthwith, employing all necessary assistance for that purpose; and such agent or his employes may enter upon any and all premises within the town or city for the purpose of such removal and destruction. Such agent shall be entitled to compensation for his services under this and the preceding sections at a rate of two dollars for each full day spent by him in the discharge of his duties, and the necessary disbursements paid or incurred by him, which with the expense and removal and destruction of any such trees or fruit shall be a town charge.

(*Amended by section* 1 *of chapter* 675 *of the Laws of* 1894.)

§ 85. **The New York agricultural experiment station.** The institution known as the New York agricultural experiment station, established in the village of Geneva for the purpose of promoting agriculture in its various branches by scientific investigation and experiment shall continue under the control and management of a board of trustees. Such board of trustees shall be known as the board of control of the state experiment station and shall consist of nine members to be appointed by the governor whose term of office shall be three years. The governor shall be a member of the board by virtue of his office. Such board of control shall annually elect a president from their own number and appoint a secretary and treasurer to hold their offices during the pleasure of the board. Such board of control shall have general management of the station and shall appoint a director to have oversight and management of the experiments and investigations which shall be necessary to accomplish the objects of said institution, and may employ competent and suitable chemists and other persons necessary for carrying on the work of the station. Such board shall have the direction of the expenditure of all moneys appropriated to the institution and annually make a full report to the commissioner of agriculture of their proceedings, receipts and expenditures. No member shall receive any compensation for his services as such; but shall be paid his necessary traveling expenses and those expenses incurred by him by an actual attendance upon the meeting of such board. The board shall make such rules and regulations, subject to the approval of the commissioner of agriculture, as may from time to time become necessary to carry out the objects of the station.

§ 86. **The state weather bureau.** The state meteorological bureau and weather service, shall hereafter be known as the state weather bureau, and shall be under the control and management of the commissioner of agriculture. Such commissioner may appoint the director of such bureau but such director shall not receive any compensation for his services. The commissioner may continue the central office and station for meteorological observation and experiment upon the grounds of Cornell university, and shall if practicable establish and supervise one or more volunteer weather stations in each congressional district of the state, in co-operation with the chief of the United States weather bureau, for the purpose of increasing the usefulness of the weather service of the state and of the United States. The sum of four thousand five hundred dollars, or so much thereof as the commissioner deems necessary, shall be annually appropriated to be paid to the commissioner by the treasurer, upon the warrant of the comptroller, issued upon the vouchers of the commissioner, for necessary clerical services at such central office, for printing and distributing reports of the results and operations of such bureau, in such manner as shall be most serviceable to the people of the state, and for the purchase, preservation and repair of proper and necessary instruments for the work of such bureau and for the reasonably necessary traveling and incidental expenses of such commissioner and director in the performance of their duties, and for such other expenses as such commissioner shall deem necessary for the efficient administration of such bureau.

(*Amended by section* 1 *of chapter* 376, *and section* 1 *of chapter* 675 *of the Laws of* 1894.)

§ 87. **The agricultural experiment station at Cornell university.** Cornell university is designated as the college within this state, solely entitled to receive the benefits of the act of congress of the United States approved March second, eighteen hundred and eighty-seven, entitled "An act to establish agricultural experiment stations in connection with the colleges established in the several states under the provisions of an act approved July second, eighteen hundred and sixty-two, and of the acts supplementary thereto." All benefits of such act which this state is authorized thereby to apply to any college, institution or agricultural experiment station within this state, are applied to the agricultural experiment station established under the direction of Cornell university, and this state consents that all appropriation, moneys or benefits to or for the use of this state, or of any institution within this state, payable under or in pursuance of such act of congress shall be paid to the treasurer of Cornell university, the officer designated to receive the same, to be expended as provided in such act of congress. Such experiment station shall annually, on or before the first day of February, make to the commissioner of agriculture, a full and detailed report of its operations, including a statement of its receipts and expenditures.

(*Amended by section* 1 *of chapter* 241 *of the Laws of* 1894, *section* 1 *of chapter* 820 *of the Laws of* 1895, *section* 1 *of chapter* 221 *of the Laws of* 1896, *and section* 1 *of chapter* 589 *of the Laws of* 1897.)

§ 88. **Receipts and apportionments of state moneys appropriated for the promotion of agriculture.** The moneys appropriated for the promotion of agriculture in this state shall be distributed among the various county agricultural societies, the state agricultural society and the American institute in the city of New York in such proportion that out of every eight thousand dollars so distributed, each county society, the state society and said institute shall receive the number of dollars set opposite to it in the following schedule:

Albany	$205 00
Allegany	101 99
Broome	67 00
Cattaraugus	86 00
Cayuga	151 00
Chautauqua	143 00
Chemung	49 37
Chenango	122 00
Clinton	84 00
Columbia	133 00
Cortland	75 00
Delaware	106 00

Dutchess	$157	00
Erie	186	00
Essex	71	00
Franklin	50	00
Fulton and Hamilton	60	00
Genesee	92	00
Greene	91	00
Herkimer	112	00
Jefferson	183	00
Kings	143	00
Lewis	53	00
Livingston	127	60
Madison	120	00
Monroe	194	00
Montgomery	107	00
American institute	950	00
Niagara	93	00
Oneida	255	00
Onondaga	204	00
Ontario	130	00
Orange	152	00
Orleans	75	00
Oswego	131	00
Otsego	148	00
Putnam	38	00
Queens	91	00
Rensselaer	180	00
Richmond	34	00
Rockland	36	00
St. Lawrence	170	00
Saratoga	121	00
Schenectady	51	00
Schoharie	97	00
Schuyler	42	17
Seneca	74	00
Steuben	125	76

Suffolk	$97 00
Sullivan	47 00
Tioga	61 00
Tompkins	96 70
Ulster	137 00
Warren	40 00
Washington	123 00
Wayne	126 00
Westchester	146 00
Wyoming	97 41
Yates	61 00
State society	700 00

In case a fractional part of eight thousand dollars is distributed, each society and the American institute shall receive such portion thereof as the amount to be received by it according to the foregoing schedule bears to eight thousand dollars. If there is no county agricultural society in any county, or it is not in active operation as such, the money which the county society of such county would be entitled to receive under this article shall be apportioned among and paid to the several town agricultural societies in such county according to the amount of premiums paid, provided such town societies sustain a public fair with premium lists, which premium lists and reports of such town fairs shall be forwarded and made to the secretary of the state agricultural society.

(*Amended by section* 2 *of chapter* 241 *of the Laws of* 1894, *and repealed by chapter* 654 *of Laws of* 1894; *re-enacted, with changes, by chapter* 587 *of the Laws of* 1895.)

§ 89. **When agricultural societies entitled to additional sums from the state.** When any county agricultural society, or the American institute in the city of New York, shall raise by voluntary subscription any sum of money, its president and treasurer shall make and subscribe an affidavit in duplicate of the formation of such society, and of its having raised a certain sum, specifying the amount, one of which affidavits shall be filed with the commissioner of agriculture and the other with the comptroller, who shall draw his warrant on the treasurer for a sum equal to the amount of such voluntary subscription, not exceeding the amount to which it would be entitled according to the apportionment in the last preceding section. Whenever the New York state agricultural society, the New York and New England agricultural society, the Western New York agricultural society, or the Interstate fair society shall annually raise, by voluntary subscription, not less than eight thousand dollars, for distribution by such society at its annual meeting and fair, as premiums on such articles productions and stock of the farm, and such improvements in farming machinery as they deem best calculated to promote the agricultural and stock-raising interests of this state, having special reference to the net profits which accrue or are likely to accrue from the mode pursued of raising the crop or stock, or the fabrication of the articles offered, with the intention that the premiums shall be given for the encouragement of the most economical or profitable mode in production; and shall so distribute such amount in such premiums; and the president and treasurer of such society shall make and subscribe a statement in duplicate verified by their affidavit, of the fact that such sum has been so raised by voluntary subscription for such premiums, specifying the amount raised and that the same has been so distributed in premiums, and shall file one of such statements and affidavits in the office of the commissioner of agriculture and the other in the office of the comptroller; and such society shall offer in writing, signed by its president and treasurer, addressed to, and filed in the office of the comptroller, to act as the agent of the state in distributing such sum or sums of money as the state may appropriate for distribution as premiums at its annual meeting and fair for the promotion of agriculture, and the improvement of the breed of stock in this state, and shall execute to the people of this state a bond, signed in its name by its president and treasurer, with such sureties as the comptroller shall approve, conditioned for the faithful performance of its duty, as such agent for such distribution, and shall file the same in the office of the comptroller, the state will appropriate, in each case the sum of eight thousand dollars to be distributed by such society, as premiums on such articles, productions, stock and improvements as may be exhibited at its annual meeting and fair on the conditions hereinbefore named, provided, however, that before any portion of the sum so to be appropriated by the state shall be so distributed as premiums, the person, persons, company or association claiming the same, or to whom the same may be awarded, shall first deliver in writing, to the president of such society an accurate and complete description of the process, in preparing the soil, including the quantity and quality of the manure applied, in raising the crop and in feeding the animal, including the kind and quantity of food, as near as may be, and also of the expense and product of the crop, or of increase in the value of the animal, with the view of showing accurately the profit of cultivating the crop or of feeding or of fattening the animal.

§ 90. **Annual report to the commissioner of agriculture and state society.** The president and treasurer of any agricultural society which receives any money of the state or acts as the agent of the state in the distribution of money of the state as premiums, shall annually before the fifteenth of December, transmit to the commissioner of agriculture a detailed account of the expenditure or distribution of all such moneys as shall have come into their hands during the preceding year, and of such other moneys as they may have received from voluntary contributions for distribution as premiums, stating to whom, and for what purpose paid, with the vouchers therefor. The presidents of the several county societies and of the American institute shall annually transmit in the month of December, to the executive committee of the New York state agricultural society, all such reports or returns as they are required to demand from applicants, for premiums, together with an abstract of their proceedings during the year which shall be examined by such executive committee, and that they shall condense, arrange and report the same, with a statement of their own proceedings to the legislature on or before the first day of March in each year.

§ 91. This chapter shall take effect immediately.

CHAPTER 570.

AN ACT to amend the code of criminal procedure, relating to violations of the agricultural law.

Approved by the Governor May 4, 1893. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section fifty-six of the code of criminal procedure is hereby amended to read as follows:

§ 56. **Jurisdiction of courts.** Subject to the power of removal provided for in this chapter, courts of special sessions, except in the city and county of New York and the city of Albany, have in the first instance exclusive jurisdiction to hear and determine charges of misdemeanors committed within their respective counties, as follows:

* * * * * * * *

35. All violations of the provisions of the agricultural law.

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SECTION 408a OF THE PENAL CODE.

(*Amended by chapter* 426 *of the Laws of* 1894, *and chapter* 554 *of the Laws of* 1897.)

Section 408a of the Penal Code provides as follows:

§ 408a. Violation of the agricultural law. Any person who disregards, disobeys or violates any proclamation, notice, order or regulation lawfully issued or prescribed by the commissioner of agriculture for the suppression or prevention of the spread of infectious or contagious diseases among domestic animals, or who violates any of the provisions of sections eighty and eighty-two of article five of the agricultural law is guilty of a misdemeanor; every person who violates any of the provisions of article two of said chapter is guilty of a misdemeanor and shall be punished by a fine of not less than twenty-five dollars nor more than two hundred dollars, or by imprisonment of not less than one month or more than six months or by both such fine and imprisonment, for the first offense.

EXTRACT FROM CHAPTER 332 OF THE LAWS OF 1893.

SCHEDULE OF LAWS REPEALED.

REVISED STATUTES.	Sections.
Part 1, chapter 17, title 3.	1-4.

LAWS OF	Chapter.	Section.
1841	169	All, except §§ 3 and 6.
1844	336	All.
1848	299	All, except §§ 3 and 6.
1869	167	All.
1878	134	All.
1879	306	All.
1880	592	All.
1881	300	All.
1882	215	All.
1882	238	All.
1882	246	All.
1883	13	All.
1884	202	All.
1884	418	All.
1884	474	All.
1885	183	All, except § 26.
1885	283	All.
1885	127	All.
1885	458	All.
1886	280	All.
1886	577	All, except that part of § 6 designated as § 24.
1887	155	All.
1887	223	All.
1887	403	All.
1887	430	All.
1887	475	All.
1887	562	All.
1887	583	All.
1888	286	All.
1888	208	All.
1888	520	All.
1888	550	All.
1889	24	All.
1889	148	All.
1889	515	All.
1889	538	All.
1890	8	All.
1891	140	All.
1891	354	1, 2.
1892	501	All.
1892	707	All.

LAWS OF 1894.

CHAPTER 143.

AN ACT to amend the agricultural law relating to condensed milk.

Became a law March 19, 1894, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section twenty-five of chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws," as amended by chapter five hundred and sixty-four of the laws of eighteen hundred and ninety-three, is hereby amended so as to read as follows:

§ 25. Regulations in regard to condensed milk. No condensed milk shall be made or offered or exposed for sale or exchange unless manufactured from pure, clean, healthy, fresh, unadulterated and wholesome milk from which the cream has not been removed either wholly or in part, or unless the proportion of milk solids shall be in quantity the equivalent of twelve per centum of milk solids in crude milk, and of which solids twenty-five per centum shall be fats. No person shall manufacture, sell or offer for sale or exchange in hermetically sealed cans, any condensed milk unless put up in packages upon which shall be distinctly labeled or stamped the name of the person or corporation by whom made and the brand by which or under which it is made. When condensed milk shall be sold from cans or packages not hermetically sealed, the vendor shall brand or label such cans or packages with the name of the manufacturer of the milk contained therein.

§ 2. This act shall take effect immediately.

CHAPTER 153.

AN ACT to establish a state veterinary college at Cornell university.

Became a law March 21, 1894, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. There is hereby established a state veterinary college at Cornell university. For the purpose of constructing and equipping suitable buildings for such college upon the grounds of said university at Ithaca, New York, the sum of fifty thousand dollars, or as much thereof as may be necessary, is hereby appropriated, to be paid by the treasurer, upon the warrant of the comptroller upon vouchers approved by the commissioner of agriculture to the Cornell university. No part of such moneys shall be expended until plans and specifications for the construction and equipment of such building, and of the location thereof, shall have been approved by the commissioner of agriculture, nor until the comptroller shall have certified that in his judgment the expense of the completion and equipment of such buildings in accordance with such plans and specifications will not exceed the amount of such appropriation. Such buildings and equipment shall be the property of the state.

§ 2. This act shall take effect immediately.

CHAPTER 241.

AN ACT to amend the agricultural law in relation to the distribution of money for agricultural purposes, and repealing certain acts and parts of acts.

Became a law April 3, 1894, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section eighty-eight, article five of chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of the general laws," is hereby amended to read as follows:

(*Amended by section* 1 *of chapter* 820 *of the Laws of* 1895; *section* 1 *of chapter* 221 *of the Laws of* 1896, *and section* 1 *of chapter* 589 *of the Laws of* 1897.)

§ 88. **Receipts and apportionment of moneys for the promotion of agriculture.** Money appropriated for the promotion of agriculture in this state, the distribution of which is not otherwise provided by law, and money collected from racing associations pursuant to chapter four hundred and seventy-nine of the laws of eighteen hundred and eighty-seven, shall be apportioned and distributed by the commissioner of agriculture among the various county agricultural societies and the American institute in the city of New York, as follows: One-half thereof shall be apportioned and distributed equally, and the remainder in proportion to the actual premiums paid during the previous year by such societies and institute, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast. If there is no county agricultural society in any county, or it is not in active operation as such, the money which the county society of such county would be entitled to receive under this article shall be apportioned among and paid to the several town agricultural societies in such county according to the amount of premiums paid, provided such town societies sustain a public fair with premium lists, which premium lists and reports of such town fairs shall be forwarded and made to the commissioner of agriculture.

§ 2. Section eighty-nine of said act is hereby amended to read as follows:

(*Repealed by chapter* 654 *of the Laws of* 1894; *re-enacted, with changes, by chapter* 587 *of the Laws of* 1895.)

§ 89. If any agricultural society, club or exposition other than the state agricultural society, which has held annual fairs during the past three years, shall, in any year, pay out at its annual meeting or fair three thousand dollars, as premiums for the promotion of agricultural interests, exclusive of premiums paid for trials of speed or endurance of man or beast, and the president and treasurer of such society, club or exposition shall make and subscribe a statement in duplicate, verified by their affidavit, of the fact that such sum has been so paid and distributed in premiums, and shall on or before the first day of December in such year, file one of such statements and affidavits in the office of the commissioner of agriculture, and the other in the office of the comptroller, and such society, club or exposition shall make an offer in writing, signed by its president and treasurer, addressed to and filed in the office of the comptroller, to act as the agent of the state in distributing such sum or sums of money as the state may appropriate for distribution as premiums at its annual meeting, and fair, for the promotion of agriculture, and the improvement of the breed of stock in this state, and the encouragement of the domestic and mechanic arts, and shall execute to the people of this state a bond, signed in its name by its president and treasurer, with such sureties, as the comptroller shall approve, conditioned for the faithful performance of its duty as such agent, for such distribution, and shall file the same in the office of the comptroller, the state will appropriate to each of such societies, clubs or expositions, the sum of two thousand dollars, to be distributed by such society, club or exposition as premiums on such articles, productions, stock and improvements as may be exhibited at its annual meeting and fair on the conditions hereinbefore named. Provided, however, that if any such society, club or exposition shall receive in any year two thousand dollars as herein provided, such society, club or exposition shall not receive any portion of the moneys collected from racing associations, pursuant to chapter four hundred and seventy-nine of the laws of eighteen hundred and eighty-seven, or of moneys already appropriated for the benefit of the county agricultural societies.

§ 3. Section six of chapter four hundred and seventy-nine of the laws of eighteen hundred and eighty-seven, and chapter five hundred and eleven of the laws of eighteen hundred and ninety-two, are hereby repealed.

§ 4. This act shall take effect immediately.

CHAPTER 376.

AN ACT to amend the agricultural law in relation to experiment stations.

Became a law April 27, 1894, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section eighty-seven of chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws," is hereby amended so as to read as follows:

§ 87. The Cornell university and the agricultural experiment station at Geneva, established by the laws of this state, are hereby designated as the institutions within this state to receive the benefits of the act of congress of the United States, approved March second, eighteen hundred and eighty-seven, entitled "An act to establish agricultural experiment stations in connection with the colleges established in the several states under the provisions of an act approved July second, eighteen hundred and sixty-two, and the acts supplementary thereto." All benefits of said act which this state is authorized to apply to any college, institution or agricultural experiment station, within this state, are hereby applied to the agricultural experiment station established under the direction of the Cornell university and the agricultural experiment station at Geneva, and this state hereby consents that all appropriations, moneys or benefits to or for the benefit of this state, or any institution within this state payable under or in pursuance of this act of congress shall be paid nine-tenths thereof to the officer of the Cornell university, designated to receive the same in accordance with said act, and one-tenth thereof to the officer of the agricultural experiment station at Geneva, designated to receive the same in accordance with said act of congress. Such experiment stations shall, annually, on or before the first day of February make, to the commissioner of agriculture, a full and detailed report of its operations, including a statement of its receipts and expenditures for the year ending with the thirteenth day of September then next preceding.

§ 2. This act shall take effect immediately.

CHAPTER 410.

AN ACT making an appropriation for the disbursement of moneys paid into the treasury in pursuance of the provisions of chapter four hundred and seventy-nine of the laws of eighteen hundred and eighty-seven, and the acts amendatory thereof.

Became a law May 3, 1894, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The sum of twenty-two thousand seven hundred fifty-two dollars and sixty-four cents, being the amount paid into the treasury prior to the twelfth day of April, eighteen hundred and ninety-four, in pursuance of the provisions of chapter four hundred and seventy-nine of the laws of eighteen hundred and eighty-seven and acts amendatory thereof, is hereby appropriated out of any moneys in the treasury not otherwise appropriated payable by the treasurer, on the warrant of the comptroller, to the order of the commissioner of agriculture to be disbursed by him pursuant to the provisions of chapter two hundred and forty-one of the laws of eighteen hundred and ninety-four.

§ 2. This act shall take effect immediately.

CHAPTER 426.

AN ACT to amend the agricultural law and the penal code relative to violations of the same.

Became a law May 3, 1894, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section twenty-six of the agricultural law is amended as follows:

(*Amended by section* 1 *of chapter* 768 *of the Laws of* 1897.)

§ 26. **Manufacture and sale of imitation butter prohibited.** No person, by himself, his agents or employes, shall produce or manufacture out of or from any animal fats or animal or vegetable oils not produced from unadulterated milk, or cream from the same, any article or product in imitation or semblance of natural butter produced from pure, unadulterated milk or cream of the same; nor shall any person solicit or take orders for the same, or offer the same for sale, or mix, compound with or add to milk, cream or butter any acids or other deleterious substance, or any animal fats or animal or vegetable oils not produced from milk or cream, so as to produce any article or substance or any human food in imitation or in semblance of natural butter, nor sell, keep for sale or offer for sale any article, substance or compound made, manufactured or produced in violation of the provisions of this section, whether such article, substance or compound shall be made or produced in this state or elsewhere.

§ 2. Section four hundred and eight-a of the penal code is amended as follows:

(*Amended by chapter* 554 *of the Laws of* 1897.)

§ 408a. **Violations of agricultural law.** Any person who disregards, disobeys or violates any proclamation, notice, order or regulation, lawfully issued or prescribed by the commissioner of agriculture for the suppression or prevention of the spread of infectious or contagious diseases among domestic animals, or who violates any of the provisions of sections eighty and eighty-two of article five of the agricultural law, is guilty of a misdemeanor; every person who violates any of the provisions of article two of said chapter is guilty of a misdemeanor, and shall be punished by a fine of not less than twenty-five dollars nor more than two hundred dollars, or by imprisonment of not less than one month nor more than six months, or by both such fine and imprisonment, for the first offense, and by six months imprisonment for the second offense; and any person who violates any of the provisions of article three of said chapter is guilty of a misdemeanor, and shall be punished by a fine of not less than fifty dollars nor more than one hundred dollars.

§ 3. This act shall take effect immediately.

CHAPTER 640.

AN ACT to amend the agricultural law authorizing agricultural societies and corporations to lease their grounds.

Became a law May 10, 1894, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section ninety-one, article five of the agricultural law is hereby amended to read as follows:

§ 91. **Lease of grounds of agricultural societies and corporations.** Any agricultural society or corporation, owning or possessing grounds in a county of this State having a population of more than three hundred thousand and less than six hundred thousand may lease such grounds for any lawful purpose except running races not inconsistent with the use thereof for the purposes of the society or corporation, for such time or times as said grounds may not be needed by any such agricultural society or corporation for its own purposes.

§ 2. This act shall take effect immediately.

CHAPTER 654.

AN ACT making appropriations for the support of government.

Became a law May 11, 1894, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The several amounts named in this act are hereby appropriated and authorized to be paid from the several funds indicated, to the respective public officers, and for the several purposes specified, for the fiscal year beginning on the first day of October, in the year eighteen hundred and ninety-four, namely:

FROM THE GENERAL FUND.

* * * * * * * * *

For the promotion of agriculture in this state, sixty-four thousand dollars; twenty thousand dollars thereof shall be distributed in premiums by the New York state agricultural society; twenty thousand dollars thereof shall be distributed by the commissioner of agriculture among the county agricultural societies of this state and to the American institute of the city of New York, as follows: One-half thereof shall be apportioned and distributed equally, and the remainder in proportion to actual premiums paid during the previous year by such societies and institute, exclusive of premiums paid for racing, twenty-four thousand dollars, which shall be paid as follows: The sum of two thousand dollars to any society, club or exposition which shall have held annually fairs during each of the three years next preceding such distribution, and which shall have paid at each of its annual meetings or fairs during such three years three thousand dollars as premiums for agricultural interests, exclusive of the premiums paid for racing, and shall on or before the first day of December in such year file a statement in duplicate, verified by its president and treasurer, showing such payment, together with the amount of each premium and the name of the person to whom it was paid, one of which statements shall be filed in the office of the commissioner of agriculture, and the other in the office of the comptroller, and shall file a written offer and bond to be approved by the comptroller, to the effect that such society, club or exposition will act as an agent of the state for the distribution and payment of such money for premiums at its annual fair; but if such society, club or exposition shall receive two thousand dollars as herein provided, it shall not receive any portion of the moneys collected from racing associations or moneys already appropriated for the benefit of county agricultural societies; the balance of said twenty-four thousand dollars not distributed as herein provided to be distributed among the county agricultural societies of the state as follows:

One-half of said balance to be apportioned and distributed equally and the remainder in proportion to the actual premiums paid during the previous year by such societies, exclusive of premiums paid for racing.

Chapter three hundred and fifty-four of the laws of eighteen hundred and ninety-one and section eighty-nine of article five of chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three are hereby repealed.

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CHAPTER 675.

AN ACT to amend the agricultural law, in relation to agricultural experiment stations within this state, and to make an appropriation therefor.

Became a law May 12, 1894, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Sections eighty-five and eighty-seven of chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws," are hereby amended to read as follows:

§ 85. **The New York Agriculture Experiment Station.** The institution known as the New York Agricultural Experiment Station, established in the village of Geneva, for the purpose of promoting agriculture in its various branches by scientific investigation and experiment shall continue under the control and management of a board of trustees. Such board of trustees shall be known as the board of control of the state experiment station and shall consist of nine members to be appointed by the governor whose term of office shall be three years. The governor shall be a member of the board by virtue of his office. Such board of control shall annually elect a president from their own number and appoint a secretary and treasurer to hold their offices during the pleasure of the board. Such board of control shall have general management of the station and shall appoint a director to have oversight and management of the experiments and investigations which shall be necessary to accomplish the objects of said institution, and may employ competent and suitable chemists and other persons necessary for carrying on the work of the station. Such board shall have the direction of the expenditure of all moneys appropriated to the institution and annually, on or before the first day of December, make a full report to the commissioner of agriculture of their proceedings, receipts and expenditures, for the year ending with the thirtieth day of September then next preceding. No member shall receive any compensation for his services as such; but shall be paid his necessary traveling expenses and those expenses incurred by him by an actual attendance upon the meeting of such board. The board shall make such rules and regulations, subject to the approval of the commissioner of.agriculture, as may from time to time become necessary to carry out the objects of the station. Such experiment station may, with the consent and approval of the commissioner of agriculture, appoint agricultural experts to assist such experiment station, in the second judical department, in conducting scientific investigations and experiments in agriculture; in disseminating agricultural knowledge by means of lectures or otherwise; and in preparing and printing for free distribution the results of such investigations and experiments, and such other information as may be deemed desirable and profitable in promoting the agricultural interests of the state. Such experts may be removed by such experiment station, in its discretion, and may be paid for their services such sum as it may deem reasonable and proper and as shall be approved by the commissioner of agriculture. All of such work by such experiment station and by such experts shall be under the general supervision and direction of the commissioner of agriculture.

§ 87. The Cornell university and the agricultural experiment station at Geneva established by the laws of the state are hereby designated as the institutions within this state, entitled to receive such portion as the legislature shall determine of the benefits of the act of the congress of the United States, approved March second, eighteen hundred and eighty-seven, entitled "An act to establish agricultural experiment stations in connection with the colleges established in the several states, under the provisions of an act approved July second, eighteen hundred and sixty-two, and of the acts supplementary thereto." Such benefits of such acts which this state is authorized thereby to apply to any college, institution or agricultural experiment station within this state, are applied to the agricultural experiment station established under the direction of Cornell university and the agricultural experiment station at Geneva, and this state consents that such appropriation, money or benefits to or for the use of this state, or of any institution within this state, payable under or in pursuance of such act of congress, shall be paid nine-tenths thereof to the treasurer of Cornell university, the officer designated to receive the same, and one-tenth thereof to the officers of the agricultural experiment station at Geneva designated to receive the same, to be expended as provided in such act of congress. Such experiment station shall, annually, on or before the first day of December, make, to the commissioner of agriculture, a full and detailed report of its operations, including a statement of its receipts and expenditures for the year ending with the thirtieth day of September then next preceding. Such experiment station may, with the consent and approval of the commissioner of agriculture, appoint horticultural experts to assist such experiment station, in the fifth judicial department, in conducting investigations and experiments in horticulture; in discovering and remedying the disease of plants, vines and fruit trees; in ascertaining the best means of fertilizing vineyard, fruit and garden plantations, and of making orchards, vineyards and gardens prolific; in disseminating horticultural knowledge by means of lectures or otherwise; and in preparing and printing for free distribution, the results of such investigations and experiments, and such other information as may be deemed desirable and profitable in promoting the horticultural interests of the state. Such experts may be removed by such experiment station, in its discretion, and may be paid for their services such sum as it may deem reasonable and proper, and as shall be approved by the commissioner of agriculture. All of such work by such experiment station and by such experts shall be under the general supervision and direction of the commissioner of agriculture.

§ 2. The treasurer of this state shall keep the account of all moneys hereafter received by him in pursuance of such act of congress, in a separate fund, to the credit of the Cornell university and the agricultural experiment station at Geneva, in the proportion stated in section one of this act, and shall pay all such moneys immediately upon the receipt thereof by him to the officers respectively designated therein to receive the same, upon the warrant of the comptroller, issued upon the order of the trustees of Cornell university and the board of control of the agricultural experiment station at Geneva, in pursuance of said act of congress, which said moneys are hereby appropriated for the purposes herein stated.

§ 3. The sum of eight thousand dollars, or so much thereof as may be necessary, is hereby appropriated out of any money in the treasury not otherwise appropriated, to be paid to the New York State Agricultural Experiment Station, at Geneva, for the purpose of agricultural experiments, investigations, instruction and information, in the second judicial department, pursuant to section eighty-five of the agricultural law, and the sum of eight thousand dollars, or so much thereof as may be necessary, is hereby appropriated out of any moneys in the treasury, not otherwise appropriated, to be paid to the agricultural experiment station at Cornell university, for the purpose of horticultural experiments, investigations, instruction and information, in the fifth judicial department, pursuant to section eighty-seven of the agricultural law. Such money shall be paid by the treasurer upon the warrant of the comptroller, upon vouchers approved by the commissioner of agriculture.

§ 4. This act shall take effect immediately.

LAWS REPEALED.

LAWS OF	Chapter.	Sections.
1887	479	6.
1891	354	All.
1892	511	All.
1893	338	89.

LAWS OF 1895.

CHAPTER 70.

AN ACT to authorize the commissioner of agriculture to settle and compromise certain claims in favor of the state for violations of sections twenty-six, twenty-seven, twenty-eight and twenty-nine of the agricultural law, relating to the sale or use of oleomargarine, so called.

Became a law March 4, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The commissioner of agriculture, subject to the approval in writing of the governor and attorney-general, is hereby authorized and empowered to settle, compromise and discharge all actions and causes of actions, or claims arising under the agricultural law since its passage to the passage of this act for any violation of sections twenty-six, twenty-seven, twenty-eight and twenty-nine of the agricultural law relating to the sale or use of oleomargarine, so called.

§ 2. All moneys received pursuant to any such settlement shall be paid by said commissioner into the treasury of the state; and any settlement made pursuant to this act shall be reported by the said commissioner in his next annual report.

§ 3. This act shall take effect immediately.

CHAPTER 134.

AN ACT to amend the agricultural law, in relation to agents appointed by the commissioner of agriculture to investigate the diseases of yellows or black knot.

Became a law March 20, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section eighty-three of the agricultural law is amended to read as follows:

§ 83. **Appointment and duties of the agents of the commissioner of agriculture.** When the commissioner of agriculture has good reason to believe that any such contagious disease exists, or that there is danger of its introduction, in any town or city in the state, he shall, on the request of the town board of such town or the common council of such city, forthwith appoint a competent freeholder of such town or city as his agent, such freeholder to be recommended by the aforesaid town board or common council who shall within ten days after his appointment, file in the office of the clerk of such town or city his acceptance of the appointment and the constitutional oath of office. Such agent shall not hold office or be entitled to receive compensation for more than thirty days in the same calendar year, unless the supervisor of such town or the mayor of such city shall request an extension of term. If so requested the commissioner of agriculture may extend the term of such agent for the number of additional days, not exceeding thirty, specified in such request, and such agent shall be entitled to compensation accordingly. Such agent shall on or without complaint, whenever it comes to his notice that either of the diseases known as yellows or black knot exists or is supposed to exist within the limits of the town or city, proceed without delay to examine the trees or fruit supposed to be infected, and if the disease is found to exist, a distinguishing mark shall be placed upon the diseased trees. If the disease is the black knot, such distinguishing mark shall be placed on some affected part of the trees, or if in the judgment of such agent any such trees should be entirely destroyed then the trunk of such tree shall be thoroughly girdled, and thereupon the owner notified personally, or by a written notice signed by such agent and left at his usual place of residence, or if a non-resident, by leaving the notice with the person in charge of the trees or fruit, or in whose possession they may be. Such notice shall contain a statement of all the facts found to exist, with an order to effectually remove and destroy by fire or otherwise the trees or parts of trees so marked and designated, within ten days, Sundays excepted, from the day of the service of the notice. In case of fruit so infected, the notice shall require the person in whose possession or control it is found, to immediately destroy the same or cause it to be done.

§ 2. Every such agent of the commissioner of agriculture in office when this act takes effect shall, if his duties require, continue in office for ten days thereafter when his term shall expire. The commissioner of agriculture shall forthwith notify every such agent, in office when this act takes effect, that his term expires on the tenth day thereafter, but the failure to receive such notice shall not entitle any such agent to receive compensation after the expiration of his term.

§ 3. This act shall take effect immediately.

CHAPTER 230.

AN ACT making an appropriation for horticultural investigations and experiments in the fifth judicial department.

Became a law April 4, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The sum of sixteen thousand dollars, or so much thereof as may be necessary, is hereby appropriated out of any moneys in the treasury, not otherwise appropriated, to be paid to the agricultural experiment station at Cornell university, for the purpose of horticultural experiments, investigations, instruction and information, in the fifth judicial department, pursuant to section eighty-seven of the agricultural law. Such moneys shall be paid by the treasurer upon the warrant of the comptroller, on vouchers approved by the commissioner of agriculture.

§ 2. This act shall take effect immediately.

CHAPTER 395.

AN ACT to amend the game law and to repeal chapter three hundred and thirty-two of the laws of eighteen hundred and ninety-three, entitled "An act in relation to the forest preserve and Adirondack park, constituting articles six and seven of chapter forty-three of the general laws."

Became a law April 25, 1895, with the approval of the Governor. Passed, three-fifths being present.

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§ 6. The schedule of articles at the beginning of the agricultural law, chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, is hereby amended to read as follows:

CHAPTER XXXIII OF THE GENERAL LAWS.

THE AGRICULTURAL LAW.

Article 1. General provisions. (§§ 1-12.)
2. Dairy products. (§§ 20-37.)
3. Adulterated vinegar. (§§ 50-53.)
4. Diseases of domestic animals. (§§ 60-71.)
5. Miscellaneous provisions. (§§ 80-90.)
6. Laws repealed. (§§ 100-101.)

§ 7. The agricultural law is further amended by adding at the end thereof the following new article:

ARTICLE VI.

LAWS REPEALED.

Section 100. Laws repealed.
101. When to take effect.
Schedule of laws repealed.

§ 100. **Laws repealed.** Of the laws enumerated in the schedule hereto annexed, that portion specified in the last column is repealed.

§ 101. **When to take effect.** This chapter shall take effect immediately.

SCHEDULE OF LAWS REPEALED.

REVISED STATUTES.	Sections.
Part 1, chapter 17, title 3	1-4.

LAWS OF	Chapter.	Sections.
1841	169	All, except §§ 3 and 6.
1844	336	All.
1848	299	All, except §§ 3 and 6.
1869	167	All.
1878	134	All.
1879	306	All.
1880	592	All.
1881	300	All.
1882	215	All.
1882	238	All.
1882	246	All.
1883	13	All.
1884	202	All.
1884	418	All.
1884	474	All.
1885	183	All, except § 26.
1885	283	All.
1885	127	All.
1885	458	All.
1886	280	All.
1886	577	All, except that part of § 6 designated as § 24.
1887	155	All.
1887	223	All.
1887	403	All.
1887	430	All.
1887	475	All.
1887	562	All.
1887	583	All.
1888	286	All.
1888	298	All.
1888	520	All.
1888	550	All.
1889	24	All.
1889	148	All.
1889	515	All.
1889	538	All.
1890	8	All.
1891	140	All.
1891	354	1, 2.
1892	501	All.
1892	707	All.

CHAPTER 587.

AN ACT to amend the agricultural law, relating to the distribution of money appropriated for certain agricultural societies.

Became a law May 9, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The agricultural law, chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, is hereby amended by inserting therein a new section, eighty-nine, to read as follows:

§ 89. **Distribution of money appropriated for certain agricultural societies.** Whenever in any year there shall be appropriated the sum of twenty thousand dollars or more for the benefit of the several agricultural societies, clubs or expositions of the State, two thousand dollars of such amount shall be paid to every such society, club or exposition, which shall have held annual fairs or meetings during each of the three years next preceding such appropriation and which shall have paid at each of such annual fairs or meetings, during such three years, the sum of three thousand dollars as premiums for agricultural interests, exclusive of the premiums paid for trials or tests of speed, skill or endurance of man or beast. Such society, club or exposition shall annually before the first day of December in each year file in the office of the commissioner of agriculture a statement, verified by its president and treasurer, showing the payment of such premiums, with the amount and object thereof, together with the name of the persons to whom they were paid. A similarly verified duplicate of such statement shall be filed in the office of the comptroller. There shall at the same time be filed in the office of the comptroller a written offer to the effect that such society, club or exposition will act as the agent of the State for the distribution and payment of the money so appropriated as premiums at its annual fair or meeting for the promotion of agricultural interests, together with a bond executed to the people of the State, signed in its name by the president and treasurer thereof, in such amount and with such sureties as the comptroller shall approve, conditioned for the faithful performance of its duties as such agent. Any such society, club or exposition receiving such sum of two thousand dollars as herein provided shall not receive any portion of the moneys collected from racing associations or moneys already appropriated for the benefit of county agricultural societies.

§ 2. This act shall take effect immediately.

CHAPTER 598.

AN ACT relating to the State Veterinary College at Cornell University.

Became a law May 10, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. For the purpose of constructing and equipping suitable buildings for the State Veterinary College at Cornell University, at Ithaca, New York, the sum of one hundred thousand dollars, or so much thereof as may be necessary, is hereby appropriated out of funds not otherwise appropriated, to be paid by the treasurer, upon the warrant of the comptroller, upon vouchers approved by the commissioner of agriculture, to the Cornell University. No part of such moneys shall be expended until plans and specifications for the construction and equipment of such buildings and the location thereof shall have been approved by the commissioner of agriculture, nor until the comptroller shall have certified that, in his judgment, the expenses of the completion and equipment of such buildings, in accordance with such plans and specifications, will not exceed the amount of such appropriation. Such buildings and equipment shall be the property of the state.

§ 2. This act shall take effect immediately.

CHAPTER 807.

AN ACT making appropriations for the support of government.

Became a law May 28, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The several amounts named in this act are hereby appropriated and authorized to be paid from the several funds indicated, to the respective public officers, and for the several purposes specified, for the fiscal year beginning on the first day of October, in the year eighteen hundred and ninety-five, namely:

FROM THE GENERAL FUND.

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For the promotion of agriculture in this State, sixty thousand dollars; twenty thousand dollars thereof shall be distributed in premiums by the New York State agricultural society, the remaining forty thousand dollars shall be distributed by the commissioner of agriculture among the American institute of the city of New York, agricultural societies, fairs, clubs and expositions according to the provisions of the agricultural law, being chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, as amended.

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CHAPTER 814.

AN ACT to provide for the erection of a building for the exhibition and preservation of fruit, and for the erection of houses for the accommodation of members of the staff, at the agricultural experiment station at Geneva, Ontario county, and making an appropriation therefor.

Became a law May 29, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Eight thousand five hundred dollars, or so much thereof as may be necessary, is hereby appropriated out of any moneys in the hands of the treasurer, not otherwise appropriated,

to be paid to the New York State Agricultural Experiment Station at Geneva, Ontario county; one thousand dollars of the said sum to be used for the purpose of erecting a suitable building for the exhibition and preservation of fruit products, and seven thousand five hundred dollars thereof to be used for the purpose of erecting three houses for the use of the members of the official staff of the said experiment station. Such moneys shall be paid by the treasurer, upon the warrant of the comptroller, upon vouchers approved by the commissioner of agriculture.

§ 2. This act shall take effect immediately.

CHAPTER 820.

AN ACT to amend the agricultural law relative to the distribution of funds collected from associations incorporated for the purpose of improving the breed of horses, and making an appropriation in accordance therewith.

Became a law May 29, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section eighty-eight of the agricultural law, as amended by chapter two hundred and forty-one of the laws of eighteen hundred and ninety-four, is hereby amended to read as follows:

(*Amended by section* 1 *of chapter* 221 *of the Laws of* 1896 *and section* 1 *of chapter* 589 *of the Laws of* 1897.)

§ 88. **Receipts and apportionment of moneys for the promotion of agriculture.** Money appropriated for the promotion of agriculture in this state, the distribution of which is not otherwise provided for by law shall be apportioned and distributed by the commissioner of agriculture among the various county agricultural societies and the American Institute in the city of New York as follows: One-half thereof shall be apportioned and distributed equally and the remainder in proportion to the actual premiums paid during the previous year by such societies and institute, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast. All revenues collected by the state comptroller and yet undistributed from the tax collected from racing associations, pursuant to chapter one hundred and ninety-seven of the laws of eighteen hundred and ninety-four, shall constitute a fund which shall be disbursed on behalf of the state for prizes for improving the breed of cattle, sheep and horses at the various fairs throughout the state, as hereinafter prescribed. Twenty-five per centum of the funds so collected shall be disbursed by the commissioner of agriculture among the agricultural societies, clubs or expositions of the state, which have not, previous to the passage of this act, received appropriations from the state as follows: One-third shall be apportioned and distributed equally, and the remainder in proportion to annual premiums paid during the past year by such society. Such sum shall only be paid to societies which have held fairs annually during each of the three years next preceding the passage of this act, and which have paid at their annual meeting or fairs during such three years, not less than one thousand dollars in the aggregate as premiums for agriculture, mechanical and domestic products, exclusive of the premiums paid for trials or tests of speed, skill or endurance of man or beast, and which shall file a statement of the amounts actually paid as such premiums during the past year, duly verified by the president and treasurer, with the commissioner of agriculture and the comptroller on or before the first day of July, eighteen hundred and ninety-five. Seventy-five per centum of such funds shall be disbursed by the commissioner of agriculture among the various county agricultural societies throughout the state, and the American Institute, in the city of New York, as follows: One-half shall be apportioned and distributed equally, and the remainder in proportion to the actual premiums paid during the previous year by such societies and institute, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast. If there is no county agricultural society in any county, or it is not in active operation as such, the money which the county society of such county would be entitled to receive under this article, shall be apportioned among and paid to the several town or other agricultural societies in such county according to the amount of premiums paid, provided such town societies sustain a public fair, with premium-list, which premium-list and reports of such town fairs shall be forwarded and made to the commissioner of agriculture. All revenues, which shall be received by the comptroller, and not distributed as heretofore provided, and all moneys received by him from the tax collected from racing associations pursuant to chapter one hundred and ninety-seven of the laws of eighteen hundred and ninety-four, or hereafter otherwise collected from racing associations, corporations or clubs, shall constitute a fund which shall be annually disbursed on behalf of the state for prizes for improving the breed of cattle, sheep and horses at the various fairs throughout the state as hereinafter prescribed. Thirty per centum of the funds so collected shall be disbursed by the commissioner of agriculture among the agricultural societies, clubs or expositions of the state, which have not, previous to the passage of this act, received appropriations from the state, as follows: One-third shall be apportioned and distributed equally and the remainder in proportion to annual premiums paid during the previous year by such society. Such sums shall only be paid to societies which shall have held fairs annually during each of the three years next preceding the passage of this act, and which shall have paid at their annual meeting or fairs during such three years not less than one thousand dollars in the aggregate as premiums for agricultural, mechanical and domestic products, exclusive of the premiums paid for trials or tests of speed, skill or endurance of man or beast. Seventy per centum of such funds shall be disbursed by the commissioner of agriculture among the various county agricultural societies throughout the state, and the American Institute, in the city of New York, as follows: One-half shall be apportioned and distributed equally, and the remainder in proportion to the actual premiums paid during the previous years by such societies and institute, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast. If there is no county agricultural society in the county, or it is not in active operation as such, the money which the county society of such county would be entitled to receive under this act, shall be apportioned among and paid to the several town or other agricultural societies in such county according to the amount of premiums paid, provided such town societies sustain a public fair, with premium-lists, and reports of such town fairs shall be forwarded and made to the commissioner of agriculture. All societies other than county agricultural societies shall hereafter on or before the first day of December in each year, file a statement in duplicate, duly verified by the president and treasurer, showing the amount of premiums paid at the last annual fair, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast, one of which statements shall be filed in the office of the commissioner of agriculture and the other in the office of the comptroller, and no such society shall be hereafter entitled to receive such appropriations in any year in which the actual amount paid by it as such premiums is less than five hundred dollars.

§ 2. The sum of ninety-five thousand nine hundred and eighty dollars and fifty-four cents, being the sum collected from racing associations in pursuance of chapter four hundred and seventy-nine of the laws of eighteen hundred and eighty-seven, as amended by chapter one hundred and ninety-seven of the laws of eighteen hundred and ninety-four, is hereby appropriated out of any moneys in the treasury not otherwise appropriated, to be distributed in the manner provided by section eighty-eight of the agricultural law, as amended by this act, and in the proportion provided by this act for the distribution of moneys already collected and yet undistributed, as hereinbefore recited. Such moneys shall be payable by the treasurer on the warrant of the comptroller on the order of the commissioner of agriculture.

§ 3. This act shall take effect immediately.

CHAPTER 821.

AN ACT to amend the executive law, relating to the duties and powers of the attorney-general.

Became a law May 29, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Subdivisons one and two of section fifty-two of the executive law, is hereby amended to read as follows:

1. Prosecute and defend all actions and proceedings in which the State is interested, and have charge and control of all the legal business of the departments and bureaus of the State, or of any office thereof which requires the services of attorney or counsel, in order to protect the interests of the State, but this section shall not apply to any of the military department bureaus or military offices of the State.

2. Whenever required by the governor, attend in person, or by one of his deputies, a court of oyer and terminer or appear before the grand jury thereof for the purpose of managing and conducting in such court or before such jury such criminal actions or proceedings as shall be specified in such requirement; in which case the attorney-general or his deputy so attending shall exercise all the powers and perform all the duties in respect of such actions or proceedings, which the district attorney would otherwise be authorized or required to exercise or perform; and in any of such actions or proceedings the district attorney shall only exercise such powers and perform such duties as are required of him by the attorney-general or the deputy attorney-general so attending.

§ 2. Section 55 of said executive law is hereby amended to read as follows:

§ 55. **Additional counsel.** The governor, or attorney general may designate and employ such additional attorneys or counsel as may be necessary to assist in the transaction of any of the legal business mentioned in section fifty-two of this act and such attorneys or counsel shall be paid from the treasury a reasonable fee upon the certificate of the governor and attorney-general, the amount thereof to be audited and allowed by them or may be paid by the attorney-general out of the costs recovered by him.

§ 3. This act shall take effect immediately.

LAWS OF 1896.

CHAPTER 221.

AN ACT to amend chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws," and the acts amendatory thereof, relative to the apportionment of moneys appropriated for the promotion of agriculture.

Became a law April 8, 1896, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York represented in Senate and Assembly, do enact as follows:

Section 1. Section eighty-eight of article five of chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, as amended by chapter two hundred and forty-one of the laws of eighteen hundred and ninety-four, as amended by chapter eight hundred and twenty of the laws of eighteen hundred and ninety-five, known as the agricultural law, constituting articles one, two. three, four and five of chapter thirty-three of the general laws, is hereby amended to read as follows:

(*Amended by section* 1 *of chapter* 589 *of the Laws of* 1897.)

§ 88. **Receipts and apportionment of moneys for the promotion of agriculture.** Of all moneys appropriated for the promotion of agriculture in any one year, twenty thousand dollars thereof shall be distributed in premiums by the New York State Agricultural society; two thousand dollars thereof shall be paid to each of the agricultural societies, clubs or exhibitions which shall have held annual fairs or meetings during each of the three years next preceding such appropriation, and which shall have paid at each of such annual fairs or meetings during such three years the sum of three thousand dollars as premiums for agricultural interests, exclusive of the premiums paid for trials or tests of speed, skill or endurance of man or beast, under the conditions and in the manner provided by section eighty-nine of this chapter. Seventy per centum of the balance of the amount so appropriated shall be apportioned and distributed among the various county agricultural societies and the American Institute in the city of New York; and thirty per centum thereof among the various town and other agricultural societies, clubs or exhibitions, entitled by this section to receive thirty per centum of the moneys received by the comptroller from the tax collected from the racing associations, corporations or clubs of the State. Such apportionment and distribution shall be made by the commissioner of agriculture in the following manner. One-half of the seventy per centum to be apportioned to such county agricultural societies and the American Institute in the city of New York shall be apportioned and distributed equally and the remainder in proportion to the actual premiums paid during the previous year by such societies and institute, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast. If there is no county agricultural society in any county or if it is not in active operation as such, then the town society or societies in such county, or other agricultural societies in such county that would otherwise be entitled to share under the thirty per centum distribution referred to in this section, shall share jointly in the distribution of such money on the same basis as they would if they were a county fair, provided such town societies sustain a public fair, with premium list, which premium list and reports of such town fairs shall be forwarded and made to the commissioner of agriculture. Of the thirty per centum to be distributed among the various town and other agricultural societies, clubs or exhibitions, one-third thereof shall be apportioned and distributed equally and the remainder in proportion to the premiums awarded and paid by said society, club or exposition for exhibits made at the annual fair upon the awards or premiums of which they seek a portion of the money to be distributed, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast. No proportion of such amount shall be paid to any such society, club or exhibition in which the actual amount paid by it as such premiums in the year preceding such apportionment, is less than five hundred dollars.

All revenues which have been or shall be received by the comptroller, and not distributed as heretofore provided, and all moneys received by him from the tax collected from racing associations pursuant to chapter one hundred and ninety-seven of the laws of eighteen hundred and ninety-four, and chapter five hundred and seventy of the laws of eighteen hundred and ninety-five, and all acts amendatory thereto, or hereafter otherwise collected from racing associations, corporations or clubs, shall constitute a fund which shall be annually disbursed on behalf of the state for prizes for improving the breed of cattle, sheep and horses at the various fairs throughout the state as hereinafter prescribed. Thirty per centum of the funds so collected shall be disbursed by the commissioner of agriculture among the agricultural societies, clubs or exhibitions of the state, which had not previous to May twenty-ninth, eighteen hundred and ninety-five, received appropriations from the state, as follows: One-third shall be apportioned and distributed equally and the remainder in proportion to the premiums awarded and paid by said society, club or exposition for exhibits made at the annual fair upon the awards or premiums of which they seek a portion of the money to be distributed. Such sums shall only be paid to societies now organized and in active operation in counties having a population according to the census of eighteen hundred and ninety-two of over three hundred and twenty-five thousand inhabitants, or which shall have held fairs, annually, during each of the three years prior to May twenty-ninth, eighteen hundred and ninety-five, and which shall have paid, at their annual meeting or fairs during such three years, not less than one thousand dollars in the aggregate as premiums for agricultural, mechanical and domestic products, exclusive of the premiums paid for trials or tests of speed, skill or endurance of man or beast. Seventy per centum of such funds shall be disbursed by the commissioner of agriculture among the various county agricultural societies throughout the state, and the American Institute, in the city of New York, as follows: One-half shall be apportioned and distributed equally, and the remainder in proportion to the premiums awarded and paid by said society, club or exposition, for exhibits made at the annual fair upon the awards or premiums of which they seek a portion of the money to be distributed, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast. If there is no county agricultural society in any county or it is not in active operation as such, then the town society or societies in such county or other agricultural societies in such county that would otherwise be entitled to share under the thirty per centum distribution referred to in this section, shall share jointly in the distribution of such money on the same basis as they would if they were a county fair, provided such town societies sustain a public fair, with premium lists and reports of such town fairs shall be forwarded and made to the commissioner of agriculture. All such societies shall hereafter, on or before the fifteenth day of December in each year, file a statement duly verified by the secretary and treasurer, showing the amount of premiums paid at the last annual fair, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast, which statement shall be filed in the office of the commissioner of agriculture. No such society, other than a county society, shall be hereafter entitled to receive such appropriations in any year in which the actual amount paid by it as such premium is less than five hundred dollars. Any town or other agricultural society in a county in which there is no agricultural society and which, according to the terms of this section receives any portion of the seventy per centum of such funds apportioned to county agricultural societies, shall not receive the portion of the thirty per centum of such funds which they would be otherwise entitled to receive. Any society, club or exposition, except the New York State Agricultural society, receiving the sum of two thousand dollars under the provisions of section eighty-nine of this act, shall not receive any other portion of the money appropriated for the promotion of agriculture.

§ 2. The sum of twenty-seven thousand two hundred and thirteen dollars and fifty-five cents, being the sum collected from racing associations in pursuance of chapter four hundred and seventy-nine of the laws of eighteen hundred and eighty-seven, as amended by chapter one hundred and ninety-seven of the laws of eighteen hundred and ninety-four, and chapter five hundred and seventy of the laws of eighteen hundred and ninety-five, is hereby appropriated out of any moneys in the treasury, not otherwise appropriated, to be distributed in the manner provided by section eighty-eight of the agricultural law, as hereby amended, and in the proportion provided by this act for the distribution of moneys collected as hereinbefore recited. Such money shall be payable by the treasurer on the warrant of the comptroller on the order of the commissioner of agriculture.

§ 3. This act shall take effect immediately.

CHAPTER 948.

AN ACT making appropriations for the support of government.

Became a law May 28, 1896, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The several amounts named in this act are hereby appropriated and authorized to be paid from the several funds indicated to the respective public officers, and for the several purposes specified, for the fiscal year beginning on the first day of October, in the year eighteen hundred and ninety-six, namely:

FROM THE GENERAL FUND.

* * * * * * * * *

For the promotion of agriculture in this state, seventy-six thousand dollars; twenty thousand dollars thereof shall be distributed in premiums by the New York State Agricultural society; of the remaining fifty-six thousand dollars there shall be distributed by the commissioner of agriculture among the American institute of the city of New York, town, county and other agricultural societies, fairs, clubs and expositions, the amount they are entitled thereto by virtue of the provisions of section eighty-nine of the agricultural law; seventy per centum of the said remainder shall be apportioned among the county agricultural societies, fairs or associations, the American institute of the city of New York or to the societies, fairs or associations, entitled thereto in counties where there are no such county agricultural societies, and thirty per centum thereof shall be apportioned to the various town and other agricultural societies, clubs or exhibitions, to be distributed in the manner provided by section eighty-eight of the agricultural law.

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LAWS OF 1897.

CHAPTER 128.

AN ACT making an appropriation for the promotion of agriculture by the college of agriculture of Cornell university.

Became a law March 25, 1897, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. For the promotion of agricultural knowledge throughout the state, the sum of twenty-five thousand dollars, or so much thereof as may be necesssary, is hereby appropriated out of any money in the treasury not otherwise appropriated to be paid to the college of agriculture at Cornell university to be expended in giving instruction throughout the state by means of schools, lectures and other university extension methods, or otherwise, and in conducting investigations and experiments; in discovering the diseases of plants and remedies; in ascertaining the best method of fertilization of fields, gardens and plantations; and best modes of tillage and farm management and improvement of live stock; and in printing leaflets and disseminating agricultural knowledge by means of lectures or otherwise; and in preparing and printing for free distribution the results of such investigations and experiments; and for republishing such bulletins as may be useful in the furtherance of the work; and such other information as may be deemed desirable and profitable in promoting the agricultural interests of the state. Such college of agriculture may, with the consent and approval of the commissioner of agriculture, employ teachers and experts and necessary clerical help to assist in carrying out the purposes of this bill. Such teachers, experts and clerical help may be removed by the college of agriculture in its discretion; and may be paid for their services such sum or sums as may be deemed reasonable and proper and as shall be approved by the commissioner of agriculture. All of such work by such teachers and experts who shall be employed under this bill shall be under the general supervision and direction of the commissioner of agriculture. The sum appropriated by this act shall be paid by the treasurer of the state upon the warrant of the comptroller to the treasurer of the Cornell university, upon such treasurer filing with the comptroller a bond in such sum and with such sureties as the comptroller may approve, conditioned for the faithful application of such sum to the purposes for which the same is hereby appropriated. Such sum shall be payable by the treasurer of Cornell university upon vouchers approved by the officers or agents of such university having charge of such college of agriculture, and such vouchers shall be filed by the treasurer of Cornell university in the office of the comptroller of the state.

§ 2. This act shall take effect immediately.

CHAPTER 306.

AN ACT making appropriations for the support of government.

Became a law April 19, 1897, with the approval of the Governor. Passed by a two-thirds vote.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The several amounts named in this act are hereby appropriated and authorized to be paid from the several funds indicated, to the respective public officers, and for the several purposes specified, for the fiscal year beginning on the first day of October, in the year eighteen hundred and ninety-seven namely:

FROM THE GENERAL FUND.

* * * * * * * * *

For the promotion of agriculture in this state, seventy-six thousand dollars; twenty thousand dollars thereof shall be distributed in premiums by the New York state agricultural society; of the remaining fifty-six thousand dollars there shall be distributed by the commissioners of agriculture among the American institute of the city of New York, town, county and other agricultural societies, fairs, clubs and expositions the amount they are entitled thereto by virtue of the provisions of section eighty-nine of the agricultural law; seventy per centum of the said remainder shall be apportioned among the county agricultural societies, fairs or associations, the American institute of the city of New York or to the societies, fairs or associations entitled thereto in counties where there are no such county agricultural societies, and thirty per centum thereof shall be apportioned to the various town and other agricultural societies, clubs or exhibitions, to be distributed in the manner provided by section eighty-eight of the agricultural law.

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CHAPTER 500.

AN ACT to amend the agricultural law, relative to the promotion of sugar beet culture by scientific and practical experiment, and making an appropriation therefor.

Became a law May 18, 1897, with the approval of the Governor. Passed, three fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws," is hereby amended by inserting after article four, a new article to be known as article five, and to read as follows:

ARTICLE V.

SUGAR BEET CULTURE.

Section 71. Commissioner of agriculture to apportion moneys appropriated for promotion of sugar beet culture.
72. Persons, et cetera, to whom moneys may be apportioned.
73. Statements; inspections, branding of packages.
74. Inspectors, to be appointed by commissioner.
75. Weighman, powers and duties.
76. Apportionment of moneys by commissioners of agriculture.

Section 71. **Commissioners of agriculture to apportion moneys appropriated for promotion of sugar beet culture.** Money appropriated for the promotion of sugar beet culture by scientific and practical experiment shall be apportioned by the commissioners of agriculture to the persons, firms, associations or corporations entitled thereto, according to the provisions of this article.

§ 72. **Persons, et cetera, to whom moneys may be distributed.** Any person, firm, association or corporation, engaged in the manufacture of sugar from beets grown in the state of New York, upon registration in the office of the commissioner of agriculture, and filing a certificate therein, stating the name of such person, firm, association or corporation, the location of the factory, and the capacity thereof, and the time when the manufacture of sugar began or is to begin, shall be entitled to a distributive share of the amount appropriated for the promotion and encouragement of sugar beet culture, as provided in this article. No such person, firm, association or corporation shall receive any portion of the moneys so appropriated, unless all the beets used in the manufacture of such sugar are grown within the state of New York, and unless the grower received therefor a net sum of not less than five dollars per ton, and provided such beets are not grown by the manufacturer of such sugar. No money shall be distributed to such manufacturers, unless the sugar manufactured by them shall contain at least ninety per centum of crystalized sugar. The commissioner of agriculture may expend such sum or sums as he may deem necessary or expedient, not exceeding ten per centum of the amount appropriated for the purposes of this article, in practical and scientific experiments in growing sugar beets in one or more sections of this state, for the purpose of determining the adaptability of the soil thereof for the production of sugar beets.

§ 73. **Statements; inspections, branding of packages.** The quantity and quality of sugar upon which said money is to be paid shall be determined by the commissioner of agriculture of this state, with whom all claimants shall, from time to time, file verified statements showing the quantity and quality of sugar manufactured by them, the price paid the producer for beets and upon which said money is claimed. The said commissioner shall, without unnecessary delay, visit or cause to be visited by such persons as he shall designate in writing, the factory where said sugar has been produced or manufactured, and take such evidence by the sworn testimony of the officers or employes of such factory or others, as to the amount and quality of sugar so manufactured, and the price paid for beets as to him or the person so designated by him shall appear satisfactory and conclusive. The sugar so manufactured shall be placed by the manufacturer in original packages, which shall be examined and branded by the said commissioner or person by him designated, with a suitable brand, showing the quantity and the quality of sugar contained in each of said packages, of which an accurate account shall be kept by said inspector, and filed in the office of the commissioner of agriculture of this state.

§ 74. **Inspectors, to be appointed by commissioner.** It shall be the duty of the commissioner of agriculture to appoint a resident inspector in each town or city where one or more manufactories of sugar may be located in this state, the aggregate output of which factories shall exceed two thousand pounds of sugar per day, and such examiner shall make such examinations, take such evidence and make such records and reports as is specified in section two of this act. The compensation or fee for such service of said inspector shall not exceed the sum of twenty-five cents for each package so branded, nor the sum of five dollars per day for any one day's service, and such resident inspector shall be required to give a good and sufficient bond in the sum of not less than two thousand dollars to the state of New York, contingent on the faithful performance of his duties, said bond to be approved by the said commissioner of agriculture. Said fees or compensation, together with the cost of said brand and any and all analysis that the said commissioner of agriculture or other authorized inspector shall require to be made, shall be borne and paid by the claimant of said money.

§ 75. **Weighman, powers and duties.** It shall be the duty of the commissioner of agriculture to appoint at each sugar manufactory in this state where the output of such manufactory shall exceed two thousand pounds of sugar per day, a person who shall weigh all beets received by the person or persons, corporation or association operating said manufactory. Such person shall be known as the weighman, and he shall keep accurate record of all duties performed by him. He shall discharge all duties pertaining to his position in an impartial manner, and shall furnish the commissioner of agriculture with a good and sufficient bond in the sum of two thousand dollars for the faithful discharge of his duties as prescribed by this act. The commissioner of agriculture may appoint such person or persons to assist said weighman as the service to be performed may require. Each person so appointed shall give bond as provided by this section. The weighman shall take into his possession, promptly on receipt of beets at such manufactory, such samples of beets as he deems fair and equitable, from which to remove dirt or other dockage. He shall then promptly weigh all beets from which samples have been taken and keep an accurate record of all weights, and all of such records shall show the names of both the seller and the buyer. The weights furnished by said weighman shall be accepted by both the seller and the buyer, and upon such weights so furnished settlement between the seller and the buyer shall be made. The compensation or fee allowed such weighman shall not exceed the sum of five dollars per day for time actually employed and for his assistants a sum not to exceed three dollars per day for the time actually employed. All expenses arising from the duties of said weighman or his assistants, as prescribed by this act, shall be paid by the person or persons, corporation or association operating such manufactory where such expense is incurred.

§ 76. **Distribution of moneys by commissioner of agriculture.** On or before the first day of February in each year, the commissioner of agriculture shall prepare a detailed statement of the quantity of sugar manufactured by each person, firm or association or corporation entitled to receive a portion of the moneys appropriated for the promotion and encouragement of sugar beet culture. He shall apportion to each such person, firm, association or corporation the moneys so appropriated according to the amount of sugar of the grade described in this article manufactured by each of them, during the preceding year. Not more than one cent a pound shall be paid in any one year on account of the sugar so manufactured. Such commissioner of agriculture shall certify to the comptroller the amount apportioned to each manufacturer of sugar according to the provisions of this article; and the comptroller shall draw his warrant upon the state treasurer for the amount so certified, payable to the party or parties to whom such apportionment was made.

§ 2. Articles five and six of said act are hereby made articles six and seven.

§ 3. The sum of twenty-five thousand dollars, or so much thereof as may be necessary, is hereby appropriated out of any moneys in the treasury not otherwise appropriated, to be paid in the manner prescribed in this act for the purpose of making effectual the provisions thereof.

§ 4. This act shall take effect immediately.

CHAPTER 554.

AN ACT to amend chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws," and the penal code, relative to violations of the agricultural law.

Became a law May 18, 1897, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section thirty-seven of chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws," is hereby amended so as to read as follows:

§ 37. Every person violating any of the provisions of this article shall forfeit to the people of the state of New York the sum of not exceeding one hundred dollars for every such violation. When such violation consists of the manufacture or production of any prohibited article, each day during which or any part of which such manufacture or production is carried on or continued, shall be deemed a separate violation of the provisions of this article. When the violation consists of the sale, or the offering or exposing for sale or exchange of any prohibited article or substance, the sale of each one of several packages shall constitute a separate violation, and each day on which any such article or substance is offered or exposed for sale or exchange, shall constitute a separate violation of this article. When the use of any such article or substance is prohibited, each day during which or any part of which said article or substance is so used or furnished for use, shall constitute a separate violation, and the furnishing of the same for use to each person to whom the same may be furnished shall constitute a separate violation. Whoever by himself or another violates any of the provisions of article two of said chapter, shall be guilty of a misdemeanor, and upon conviction shall be punished by a fine of not less than twenty-five dollars, nor more than two hundred dollars, or by imprisonment of not less than one month nor more than six months or by both such fine and imprisonment, for the first offense; and by six months imprisonment for the second offense; and any person who violates any of the provisions of article three of said chapter, is guilty of a misdemeanor, and shall be punished by a fine of not less than fifty dollars, nor more than one hundred dollars; and in addition thereto shall forfeit to the people of the state of New York, the sum of one hundred dollars for every such violation.

§ 2. Section four hundred and eight-a of the penal code is hereby amended so as to read as follows:

§ 408a. **Violations of the agricultural law.** Any person who disregards, disobeys or violates any proclamation, notice, order or regulation, lawfully issued or prescribed by the commissioner of agriculture, for the suppression or prevention of the spread of infectious or contagious diseases among domestic animals, or who violates any of the provisions of sections eighty and eighty-two of article five of the agricultural law, is guilty of a misdemeanor.

§ 3. This act shall take effect immediately.

CHAPTER 589.

AN ACT to amend chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws," as amended by chapter two hundred and twenty-one of the laws of eighteen hundred and ninety-six, relative to the apportionment of moneys appropriated for the promotion of agriculture.

Became a law May 19, 1897, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section eighty-eight of article five of chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, as amended by chapter two hundred and twenty-one of the laws of eighteen hundred and ninety-six, is hereby amended to read as follows:

§ 88. **Receipts and apportionment of moneys for the promotion of agriculture.** Of all moneys appropriated for the promotion of agriculture in any one year, twenty thousand dollars thereof shall be distributed in premiums by the New York State Agricultural Society; two thousand dollars thereof shall be paid to each of the agricultural societies, agricultural clubs, or agricultural expositions which shall have held annual agricultural fairs or meetings during each of the three years next preceding such appropriation, and which shall have paid at each of such annual fairs or meetings during such three years the sum of three thousand dollars as premiums for agricultural interests, exclusive of the premiums paid for trials or tests of speed, skill or endurance of man or beast, under the conditions and in the manner provided by section eighty-nine of this chapter. Seventy per centum of the balance of the amount so appropriated shall be apportioned and distributed among the various county agricultural societies and the American Institute in the city of New York; and thirty per centum thereof among the various towns and other agricultural societies, agricultural clubs or agricultural expositions entitled by this section to receive thirty per centum of the moneys received by the comptroller from the tax collected from the racing associations, corporations or clubs of the state. Such apportionment and distribution shall be made by the commissioner of agriculture in the following manner. One-half of the seventy per centum to be apportioned to such county agricultural societies and the American Institute in the city of New York shall be apportioned and distributed equally and the remainder in proportion to the actual premiums paid during the previous year by such societies and institute, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast. If there is no county agricultural society in any county, or if the county agricultural society is not in active operation as such, then the town society or societies in such county, or other agricultural societies in such county, except the New York State Agricultural Society, that would otherwise be entitled to share under the thirty per centum distribution referred to in this section, shall share jointly in the distribution of such money on the same basis as they would if they were a county agricultural society, provided such societies sustain a public fair with premium list, which premium list and reports of such societies shall be forwarded and made to the commissioner of agriculture. Of the thirty per centum to be distributed among the various town and other agricultural societies, clubs or expositions one-third thereof shall be apportioned and distributed equally and the remainder in proportion to the premiums awarded and paid by said society, club or exposition for exhibits made at the annual fair upon the awards or premiums of which they seek a portion of the money to be distributed, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast. No proportion of such amount shall be paid to any such society, club or exposition in which the actual amount paid by it as such premiums in the year preceding such apportionment, is less than five hundred dollars. All revenues which have been or shall be received by the comptroller, and not distributed as heretofore provided, and all moneys received by him from the tax collected from racing associations pursuant to chapter one hundred and ninety-seven of the laws of eighteen hundred and ninety-four, and chapter five hundred and seventy of the laws of eighteen hundred and ninety-five, and all acts amendatory thereto, or hereafter otherwise collected from racing associations, corporations or clubs, shall constitute a fund, which shall be annually disbursed on behalf of the state for prizes for improving the breed of cattle, sheep and horses at the various fairs throughout the state as hereinafter prescribed. Thirty per centum of the funds so collected shall be disbursed by the commissioner of agriculture among the agricultural societies, agricultural clubs or agricultural expositions of the state, which had *not* previous to May twenty-ninth, eighteen hundred and ninety-five, received appropriations from the state, as follows: One-third shall be apportioned and distributed equally and the remainder in proportion to the premiums awarded and paid by said society, club or exposition for exhibits made at the annual fairs upon the awards or premiums of which they seek a portion of the money to be distributed, such sums shall only be paid to such societies which have received appropriations from the state previous to the passage of this act, and are now duly organized under the laws of the state of New York, and in active operation in counties having a population according to the census of eighteen hundred and ninety-two of over three hundred and twenty-five thousand inhabitants, or which shall have held fairs, annually, during each of the three years prior to May twenty-ninth, eighteen hundred and ninety-five, and which shall have paid, at their annual meetings or fairs during such three years, not less than one thousand dollars in the aggregate as premiums for agriculture, mechanical and domestic products, exclusive of the premiums paid for trials or tests of speed, skill or endurance of man or beast, and which shall have filed their report with the commissioner of agriculture, on or before July first, eighteen hundred and ninety-five, as heretofore provided in chapter eight hundred and twenty of the laws of eighteen hundred and ninety-five. Seventy per centum of such funds shall be disbursed by the commissioner of agriculture among the various county agricultural societies throughout the state, and the American Institute, in the city of New York, as follows: One-half shall be apportioned and distributed equally, and the remainder in proportion to the premiums awarded and paid by said society, club or exposition, for exhibits made at the annual fair upon the awards or premiums of which they seek a portion of the money to be distributed, exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast. If there is no county agricultural society in any county, or if the county agricultural society is not in active operation as such, then the town society or societies in such county, or other agricultural societies in such county, except the New York State Agricultural Society, that would otherwise be entitled to share under the thirty per centum distribution referred to in this section, shall share jointly in the distribution of such money on the same basis as they would if they were a county agricultural society, provided such societies sustain a public fair, with premium list and reports of such societies shall be forwarded and made to the commissioner of agriculture. All agricultural societies, agricultural clubs or agricultural expositions entitled to receive any portion of the moneys appropriated by the state must hereafter, on or before the fifteenth day of December, in each year, file a statement, duly verified by the secretary and treasurer, showing the amount of premiums paid at the last annual fair. exclusive of premiums paid for trials or tests of speed, skill or endurance of man or beast, which statement shall be filed in the office of the commissioner of agriculture, otherwise such society, club or exposition shall forfeit its right to participate in the distribution of such moneys for premiums paid for such year. No proportion of such moneys shall be paid to any such society, club or exposition in which the actual amount paid by it as such premiums in the year preceding such apportionment, is less than five hundred dollars. Any town or other agricultural society in a county in which there is no county agricultural society in active operation and which, according to the terms of this section receives any portion of the seventy per centum of such funds apportioned to county agricultural societies, shall not receive any portion of the thirty per centum of such funds. Any such society, club or exposition, receiving the sum of two thousand dollars under the provisions of section eighty-nine of this act, shall not receive any other portion of the money appropriated for the promotion of agriculture. Any such agricultural society, agricultural club, agricultural exposition, or agricultural fair association, organized under the laws of the State of New York, which shall fail or neglect to hold annual fairs and file their annual reports as provided by this law, with the commissioner of agriculture for two consecutive years, shall forfeit all of their chartered rights, including any privileges or moneys they might thereafter otherwise be entitled to under this act.

§ 2. The sum of fifty thousand dollars of the amount collected and due from racing associations in pursuance of chapter four hundred and seventy-nine of the laws of eighteen hundred and eighty-seven as amended by chapter one hundred and ninety-seven of the laws of eighteen hundred and ninety-four, and chapter five hundred and seventy of the laws of eighteen hundred and ninety-five and all acts amendatory thereof or supplementary thereto is hereby appropriated out of any moneys in the treasury so collected at the time of the distribution thereof as provided herein. Such sum shall be distributed in the manner provided by section eighty-eight of the agricultural law, as amended, and in the proportion provided therein for the distribution of such moneys, and shall be payable by the treasurer on the warrant of the comptroller on the order of the commissioner of agriculture.

§ 3. All acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

§ 4. This act shall take effect immediately.

CHAPTER 767.

AN ACT providing for horticultural investigations, experiments, instruction and information, and for the dissemination of horticultural knowledge in the second judicial department, at the agricultural station at Geneva, in the county of Ontario, and making an appropriation therefor.

Became a law May 22, 1897, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The sum of eight thousand dollars, or so much thereof as may be necessary, is hereby appropriated out of any moneys in the treasury not otherwise appropriated, for the purpose of conducting horticultural investigations, experiments, instruction and information, and to disseminate horticultural knowledge in the second judicial department, to be paid to the New York state agricultural experiment station at Geneva, county of Ontario, as provided for in and pursuant to section eighty-five of the agricultural law. Such money hereby appropriated shall be paid by the treasurer on the warrant of the comptroller, upon vouchers approved by the commissioner of agriculture.

§ 2. This act shall take effect immediately.

CHAPTER 768.

AN ACT to amend chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws."

Became a law May 22, 1897, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section twenty-six of chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws," is hereby amended so as to read as follows:

§ 26. **Manufacture and sale of imitation butter prohibited.** No person by himself, his agents or employes, shall produce or manufacture out of or from any animal fats or animal or vegetable oils not produced from unadulterated milk or cream from the same, the article known as oleomargarine or any article or product in imitation or semblance of natural butter produced from pure, unadulterated milk or cream of the same; or mix, compound with or add to milk, cream or butter any acids or other deleterious substance or any animal fats or animal or vegetable oils not produced from milk or cream, so as to produce any article or substance or any human food in imitation or in semblance of natural butter, nor sell, keep for sale or offer for sale any article, substance, or compound made, manufactured or produced in violation of the provisions of this section, whether such article, substance or compound shall be made or produced in this state or elsewhere. Any dealer in any article or product, the manufacture or sale of which is prohibited by this act, who shall keep, store or display such article or product, with other merchandise or stock in his place of business, shall be deemed to have the same in his possession for sale.

§ 2. This act shall take effect immediately.

CHAPTER 790.

AN ACT making appropriations for certain expenses of government and supplying deficiencies in former appropriations.

Became a law May 24, 1897, with the approval of the Governor. Passed by a two-thirds vote.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The treasurer shall pay on the warrant of the comptroller, from the several funds specified, to the persons and for the objects indicated in this act, the amounts named or such parts of those amounts as shall be sufficient to accomplish, in full, the purposes designated by the appropriations, but no warrants shall be issued, except in cases of salaries, until the amounts claimed shall have been audited and allowed by the comptroller, who is hereby authorized to determine the same. The persons demanding payment shall present to him a detailed statement, in items, verified by affidavit; and if the account shall be for services it must show when, where and under what authority they were rendered; if for expenditures, when, where and under what authority they were made; if for articles furnished, when and where they were furnished, to whom they were delivered, and under what authority; and if the demand be for traveling expenses, the account must also specify the distance traveled, the place of starting and destination, the duty or business and the date and items of expenditure. On all accounts for transportation, furniture, blank and other books furnished for the use of officers, binding, blanks, printing, stationery and postage, a bill duly certified must be furnished; but whenever an appropriation shall have been provided otherwise, the sum herein directed to be paid shall not be considered as an addition to such other appropriation unless it shall be expressly so declared in this act.

* * * * * * * * *

For the promotion of agriculture, the sum of ten thousand dollars, to be distributed by the commissioner of agriculture as provided in section eighty-eight of the agricultural law.

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